

SABUJEEMA

An International Multidisciplinary e-Magazine

www.sabujeema.com

Volume 2 | Issue 8 | AUGUST, 2022

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[Article ID: SIMM0180]

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Diatoms are single celled, unicellular microscopic algae. It contains the golden brown photosynthetic pigments. It's found abundantly in marine ecosystem as a primary producer and also play important role of carbon cycle and removal of biogenic silica from the surface water in marine ecosystem. The diatoms are commonly known as Pasture of the sea or meadows of the sea, Single celled algae that possess a distinct nucleus (Eukaryotic). Main of this experiment is to study the distribution of diatoms in Injambakkam beach, Chennai, Tamilnadu, India. Diatoms samples were collected from Injambakkam beach at three days interval for

period of one month from 1.8.2019 to 30.8.2019. Algae sample were collected and fixed 4% of formalin and examined at Trinocular stereo zoom microscope. Water samples were collected from 10 cm below of water surface during morning hours. Temperature, Salinity, PH, Alkalinity, Hardness, Calcium, Magnesium, Ammonia and Nitrate was measured by APHA method. The result showed that, Physico chemical parameters was recorded minimum range to maximum range like temperature 28°C – 30°C, Salinity 31- 34 ppt, pH 8.1 - 8.4, Alkalinity 110 - 139mg/l, Hardness 3000 – 4,400mg/l, Calcium 514 – 689 mg/l, Magnesium 672 – 735 mg/l and Ammonia 0.002- 0.081 mg/l. The most common genera were dominated like Skeletonema sp, Cosinodiscus sp, Pleurosigma sp, Rhizosolenia sp, Thalassionema sp, Leptocylindricus sp, Ceratium sp, Nitzschia sp, Entomoneis sp and Thalassiosira sp and it's concluded of this experiment need for conservation efforts of biota, Injambakkam beach in future.

Keywords: Diatoms, physicochemical parameters, Injambakkam, Kanchipuram district