Komunitas Mikroalga Epiplastik pada Kemasan Minuman Jenis PET di Perairan Pulau Pramuka, Kepulauan Seribu, DKI Jakarta = Epiplastic Microalgae Community on PET Beverage Packaging in the Waters of Pramuka Island, Kepulauan Seribu, DKI Jakarta

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Abstrak

Penelitian terhadap komunitas mikroalga epiplastik pada substrat plastik polyethylene terephthalate (PET) dilakukan di perairan Pulau Pramuka, Kepulauan seribu. Sampel plastik kemasan minuman diambil dari tiga stasiun di bagian Barat, Utara, dan Timur Pulau Pramuka. Sampel yang diisolasi kemudian diamati di bawah mikroskop cahaya dan kelimpahan, serta keanekaragaman mikroalga pada setiap stasiun dihitung. Mikroalga tersebut diidentifikasi, sehingga struktur komunitas dan adanya mikroalga berpotensi toksik diketahui. Mikroalga yang diidentifikasi berasal dari tiga divisi, yaitu Bacillariophyta, Dinophyta, dan Cyanobacteria. Bacillariophyta merupakan divisi yang paling melimpah dan ditemukan 11 genus yang berasal dari divisi tersebut, antara lain Coscinodiscus, Diploneis, Pleurosigma, Gyrosigma, Nitzschia, Cymbella, Thalassiosira, Synedra, Navicula, Fragilaria, dan Thalassionema. Dinophyta yang ditemukan berasal dari genus Prorocentrum dan Cyanobacteria yang ditemukan berasal dari genus Chroococcus. Nitzschia merupakan mikroalga yang paling melimpah dengan total kelimpahan 395,9 sel/ml, sedangkan kelimpahan terendah dimiliki oleh Chroococcus dengan nilai 1,18 sel/ml. Mikroalga berpotensi toksik ditemukan pada beberapa stasiun, yaitu Nitzschia dan Prorocentrum. Indeks keanekaragaman dan kemerataan tertinggi terdapat pada stasiun 1 (1,62 dan 0,78) karena tidak ada genus yang mendominasi, sedangkan indeks dominansi tertinggi terdapat pada stasiun 3 (0,52).

.....Research on epiplastic microalgal communities on polyethylene terephthalate (PET) plastic substrates was conducted in the waters of Pramuka Island, Kepulauan Seribu. Beverage packaging plastic samples were taken from three stations in the western, northern, and eastern parts of Pramuka Island. The isolated samples were then observed under a light microscope and the abundance and diversity of microalgae at each station were calculated. The microalgae were identified so that community structure and the presence of potentially toxic microalgae were known. The microalgae identified came from three classes, namely Bacillariophyta, Dinophyta, and Cyanobacteria. Bacillariophyta is the most abundant class and 11 genera were found from the class, including Coscinodiscus, Diploneis, Pleurosigma, Gyrosigma, Nitzschia, Cymbella, Thalassiosira, Synedra, Navicula, Fragilaria, and Thalassionema. Dinophyta found came from the genus Prorocentrum and Cyanobacteria found came from the genus Chroococcus. Nitzschia is the most abundant microalgae with a total abundance of 395.9 cells/ml, while the lowest abundance is owned by Chroococcus with a value of 1.18 cells/ml. Potentially toxic microalgae were found at several stations, namely Nitzschia and Prorocentrum. The highest diversity and evenness indices were found at station 1 (1.62 and 0.78) because there was no genus dominating the station, while the highest dominance index was found at station 3 (0.52).