

Struktur Komunitas Perifiton pada Substrat Cangkang *Melanoides tuberculata* (Muller, 1774) di Situ Agathis, Universitas Indonesia, Depok, Jawa Barat = Periphyton Community Structure on *Melanoides tuberculata* (Müller, 1774) Shell Substrate at Agathis Small Lake, University of Indonesia, Depok, West Java

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Abstrak

Perifiton merupakan kumpulan mikroalga yang hidup menempel pada berbagai jenis substrat. Perifiton responsif terhadap gangguan faktor fisika-kimia perairan sehingga dapat dijadikan sebagai bioindikator. Penelitian bertujuan untuk mengetahui struktur komunitas perifiton sebagai bioindikator pencemaran air. Penelitian berlokasi di Situ Agathis UI yang terbagi menjadi 9 substasiun. Parameter fisika-kimia yang diukur terdiri dari suhu, turbiditas, arus, kecerahan, pH, oksigen terlarut, dan nitrat. Sampel perifiton diambil dengan mengerik cangkang *M. tuberculata*. Pencacahan perifiton dilakukan dengan metode subsampel. Identifikasi perifiton dilakukan sampai tingkat marga. Data yang diperoleh dianalisis secara statistik dengan Spearman Rank's Correlation menggunakan STATCAL. Hasil penelitian menunjukkan perifiton yang ditemukan terdiri dari 16 marga yang berasal dari 6 kelas dan 5 divisi dengan rata-rata kepadatan sebesar 1.517-22.475 ind/mm². Indeks keanekaragaman perifiton tergolong sedang dan menunjukkan kondisi perairan Situ Agathis UI tergolong tercemar sedang ($1 < H' < 3$). Indeks dominansi menunjukkan tidak adanya marga perifiton yang dominan dan persebaran individu tiap marga merata. Hasil uji statistik menunjukkan parameter suhu, turbiditas, dan arus berkorelasi signifikan (P-Value <0,05) terhadap kerapatan perifiton pada substrat cangkang *M. tuberculata*.

.....Periphyton is an assembly of microalgae that live attached to various types of substrate. Periphyton is responsive to disturbances of water physico-chemical factors so that it can be used as a bioindicator. The aim of the study was to determine the periphyton community structure as a bioindicator of water pollution. The research is located at Agathis Small Lake UI which is divided into 9 substations. The physico-chemical parameters measured consisted of temperature, turbidity, current, brightness, pH, dissolved oxygen, and nitrate. Periphyton samples were taken by scraping the shells of *M. tuberculata*. Periphyton count was carried out using the subsample method. Periphyton identification was carried out up to the genera level. The Data obtained were analyzed statistically by Spearman Rank's Correlation using STATCAL. The results showed that the periphyton found consisted of 16 genera from 6 classes and 5 divisions with an average of density of 1.517-22.475 ind/mm². The periphyton diversity index is classified as moderate and shows that the water conditions of Agathis Small Lake are classified as moderately polluted ($1 < H' < 3$). The dominance index indicates the absence of dominant periphyton genus and the distribution of individuals for each genera is evenly distributed. The result of statistical tests showed that the parameters of temperature, turbidity, and current were significantly correlated (P-Value <0,05) with the density of periphyton on the shell substrate of *M. tuberculata*.