SUMMARY

Microalgae in mangrove ecosystems are important as primary producers and bioindicators of water quality, with their diversity and abundance influenced by environmental factors such as physicochemical conditions. This study aimed to assess the similarity in microalgae abundance and composition between the mangrove waters of Segara Anakan, Cilacap, and Kulon Progo, Yogyakarta. Sampling was conducted at four stations per location, and the main parameters included the number of genera, temperature, salinity, pH, light penetration, nitrate and phosphate levels.

The study identified 29 genera belongs to four classes and three phyla, dominated by Bacillariophyceae. The Bray-Curtis similarity index revealed distinct microalgal community structures between Segara Anakan and Kulon Progo. High intra-site similarity and marked inter-site differences indicate strong environmental influence on community composition. Canonical Correspondence Analysis (CCA) was applied to assess the relationship between 29 microalgal genera and six environmental factors. The analysis revealed clear ecological preferences, with Rhizosolenia and Coscinodiscus linked to high nitrate and phosphate concentrations, while Chlorella and Gyrosigma were associated with high salinity waters.

Keywords: abundance, composition, Kulon Progo, mangrove waters, microalgae, Segara Anakan.