

Antifouling-Bacterial Potentials of Kenikir (*Cosmos caudatus*) and Bandotan (*Ageratum conyzoides*) Leaf Extracts in Freshwater Environment

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| Title | Antifouling-Bacterial Potentials of Kenikir (<i>Cosmos caudatus</i>) and Bandotan (<i>Ageratum conyzoides</i>) Leaf Extracts in Freshwater Environment |
| Author Order | 1 of 3 |
| Accreditation | 2 |
| Abstract | <p>Biofouling refers to the attachment of organisms to the surface of an object submerged in water. It is often undesirable due to its detrimental effects, meanwhile, one way of managing biofouling is via antifouling. This study aims to examine the potential of kenikir (<i>Cosmos caudatus</i>) and bandotan (<i>Ageratum conyzoides</i>) leaves extracts as an alternative to natural antifouling. The research was conducted using the exploration method where the extract of both plants was examined in field and laboratory scales. Moreover, the extracts were mixed with paint without antifouling and then tested on a field scale by painting on wooden blocks. Observations were made by counting the number of microfouling in form of bacterial colonies attached to the painted wood surface by scraping the surface of the wood submerged in freshwater for one week. The results showed that the number of bacterial colonies with kenikir leaves extract was less than the bandotan extract. Moreover, based on the phytochemical analysis results, both kenikir and bandotan extracts contain alkaloids, steroids, tannins and saponins, however, the alkaloid content in kenikir leaf extract was higher compared to bandotan leaves. In conclusion, kenikir leaves extract has greater potential as an alternative source of antifouling compared to bandotan because the former has more bioactive content, especially alkaloid compounds.</p> |
| Publisher Name | Department of Aquaculture |
| Publish Date | 2021-05-28 |
| Publish Year | 2021 |
| Doi | DOI: 10.20473/jafh.v10i2.22652 |
| Citation | |
| Source | Journal of Aquaculture and Fish Health |
| Source Issue | Vol. 10 No. 2 (2021): JAFH Vol. 10 No. 2 June 2021 |
| Source Page | 213-220 |
| Url | https://e-journal.unair.ac.id/JAFH/article/view/22652/14216 |
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