

Microbiological Quality of *Gadus morhua* Treated With Silver Nanoparticles Synthesized Using *Launaea taraxacifolia* Leaves.

By: Kester, Christiana T.; Essien, Enobong R.; Akinwumi, Kazeem A.; ... **Published in:**

Tropical Journal of Natural Product Research, 2024, v. 8, n. 4, p. 6989, doi.
10.26538/tjnpr/v8i4.33

Authors

[Kester, Christiana T.](#); [Essien, Enobong R.](#); [Akinwumi, Kazeem A.](#); [Daramola, John A.](#); [Iraye, Peace U.](#)

Abstract

A number of shelf life-promoting strategies have been adopted for fish and fisheries products. The in vitro preservative effect of Ag-nanoparticles synthesized using *Launaea taraxacifolia* leaves on Atlantic cod fish (*Gadus morhua*) was investigated. The treated (TRD) fish samples were dipped in 25% silver nanoparticles (AgNPs) preparation for 30 minutes and analyzed at four hours intervals for 24 hours. Samples were cut into Head (H), Trunk (TR), and Tail (TL) parts and evaluated for total heterotrophic bacterial counts (THBC) and total yeast counts (TYC) all expressed in log CFU/g. Untreated (UTD) served as control. The concentrations of silver in both treated and untreated fish samples were determined. Data were analyzed using descriptive statistics and ANOVA at $\alpha=0.05$. The treated samples recorded lower THBC values than the untreated: head (6.18 ± 0.27 vs 6.55 ± 0.65); trunk (6.22 ± 0.11 vs 6.61 ± 0.41) and tail (6.40 ± 0.34 vs 6.57 ± 0.83). The treated samples had lower TYC values than the untreated: head (6.34 ± 0.58 vs 7.44 ± 0.38), trunk (6.59 ± 0.66 vs 7.05 ± 0.46) and tail (6.47 ± 0.30 vs 6.81 ± 0.95). Both the treated and the untreated samples were dominated by *Enterococcus* spp. (569 vs 957) and *Micrococcus* spp. (13 vs 18). *Bacillus* spp. (36) was isolated only in the untreated sample. The silver concentrations were highest in untreated and treated trunk samples respectively (1.12 and $2.13 \mu\text{g/g}$), followed by head samples (0.58 and $1.41 \mu\text{g/g}$) while the tail samples had the least (0.27 and $0.29 \mu\text{g/g}$). The Ag-nanoparticles synthesized from *Launaea taraxacifolia* leaves exhibited both antibacterial and antifungal activities and could be useful in preserving fish and fishery products.

Subjects

[Medical research](#); [Medical sciences](#); [Medicinal plants](#); [Natural products](#); [Launaea](#)

Publication

[Tropical Journal of Natural Product Research, 2024, Vol 8, Issue 4, p6989](#)

ISSN

2616-0684

Publication type

Academic Journal

DOI

10.26538/tjnpr/v8i4.33

[Choose another institution](#)

[EBSCO Connect](#) | [Privacy policy](#) | [Terms of use](#) | [Copyright](#) | [Manage my cookies](#)

[Journals](#) | [Subjects](#) | [Sitemap](#)

Software © 2026 EBSCO Industries, LLC. All rights reserved

Microbiological Quality of Gadus morhua Treated With Silver Nanoparticles Synthesized Using
Launaea taraxacifolia Leaves. | EBSCOhost