
Mesopelagic fish for the future: sustainable nutrition from the deep

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Résumé

Mesopelagic fish, particularly myctophids (lanternfish), represent an abundant yet underutilized marine resource with significant nutritional potential. My study assesses the nutritional composition of 16 mesopelagic fish species from the Tasman Sea, highlighting their value for human consumption and aquaculture feed.

Results show that these fish are rich in essential nutrients, particularly omega-3 long-chain polyunsaturated fatty acids (n-3 LC-PUFA), which are crucial for cardiovascular and brain health. Notably, they contain high levels of DHA and EPA, comparable to other marine fish. Despite lower protein (5.3–11.9% WW) and lipid content (1.6–6.5% WW) than commercially harvested species, they provide a valuable source of energy (13.1–26.0 KJ/g WW) and essential saturated fatty acids (> 150 mg/100g). Importantly, mercury concentrations in these fish are low (< 0.1 µg/g WW), making them a safe dietary option. With growing demand for sustainable and nutritious seafood, mesopelagic fish offer a novel opportunity to enhance global food security. Their high-quality omega-3 profile and low contaminant levels make them a promising candidate for future marine-based nutrition innovations.

Mots-Clés: n, 3 LC, PUFA, DHA, EPA, contamination, mesopelagic fish, seafood

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