

EuFish, a project for the re-evaluation of underutilized European fish species towards a sustainable fishery management and zero waste approach

Vittoria Dias^{1,2}, Carmen Rizzo^{3,4}, Federica Laface⁵, Danilo Malara⁶, Francesco Longo^{1,2}, Teresa Romeo^{5,7}, Paolo Sordino⁵

¹Researches Centre and Marine Advanced Infrastructures in Calabria (CRIMAC)

²Stazione Zoologica Anton Dohrn, Sicily Marine Centre, Contrada Porticatello, 29, 98167, Messina, Italy

³Department of Ecosustainable Marine Biotechnology, Stazione Zoologica Anton Dohrn, Sicily Marine Centre, Contrada Porticatello, 29, 98167, Messina, Italy

⁴Institute of Polar Sciences, National Research Council (CNR-ISP), Spianata S. Raineri 86, 98122, Messina, Italy.

⁵Department of Biology and Evolution of Marine Organism, Stazione Zoologica Anton Dohrn, Sicily Marine Centre, Contrada Porticatello, 29, 98167, Messina, Italy

⁶Department of Integrative Marine Ecology, Stazione Zoologica Anton Dohrn, Sicily Marine Centre, Contrada Porticatello, 29, 98167, Messina, Italy

⁷National Institute for Environmental Protection and Research, Via dei Mille, 46, 98057, Milazzo, Italy.

Presenting Author: Vittoria Dias

Presenting author contact Vittoria.dias@szn.it

Sustainable fisheries management is essential for the future health of our oceans, to promote the marine ecosystems recovery from overfishing, through a sustainable approach to biodiversity. The depletion of traditional fish stocks has led to a new fisheries policy with management measures based on sustainable exploitation of fish species usually considered underutilized (Caruso et al., Marine Drugs 2020). In this context, the ERANET BlueBio project EuFish_SustainableGrowth is aimed at re-evaluating underutilized European fish species by developing species-specific fingerprints. The project is focused on seven fish species, as follows: *Boops boops*, *Sardinella aurita*, *Lepidopus caudatus*, *Trachurus trachurus*, *Coryphaena hippurus*, *Argentina silus* and *Micromesistius poutassou*. Sampling activities will be carried out according to seasonality, by considering only the months outside the reproduction period. Omics approaches will be applied to provide fundamental information concerning fish species authentication and physiology. In detail, metagenomic sequencing of fish digestive system-associated microbiota will provide an assessment of the functional potential of the microbial community, for instance, to reveal the presence of virulence factors and antibiotic resistance genes that pose a threat to fish and humans. Moreover, samples will be analysed for proximates and physico-chemical features, and the frequency and the composition of microplastic polymers and trace metals will be also investigated. The expected outcome of the project EuFish_SustainableGrowth is to encourage more responsible and sustainable fishing and to launch on the market new seafood and feed products achieving “zero waste”.