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**ECOLOGY  
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# ABSTRACT BOOK

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## **S12.2 - SEMANTIC TOOLS FOR FUNCTIONAL TRAIT-BASED APPROACHES: DEVELOPMENT AND APPLICABILITY**

I. Rosati<sup>1,2,3\*</sup>, A. Boggero<sup>1,4</sup>, N. Fiore<sup>1,3</sup>, P. Franzoi<sup>5</sup>, C. Fugazza<sup>6</sup>, A. Oggioni<sup>1,6</sup>, A. Pignetti<sup>1,7</sup>, L. Roselli<sup>3</sup>, E. Stanca<sup>3</sup>, P. Tagliolato<sup>1,6,7</sup>, S. Vizzini<sup>8</sup>, A. Zingone<sup>1,9</sup>, A. Basset<sup>1,3</sup>

<sup>1</sup> *LifeWatch Italy*

<sup>2</sup> *National Research Council, Institute of Agro-environmental and Forest Biology, Rome, Italy*

<sup>3</sup> *Department of Biological and Environmental Sciences and Technologies, University of the Salento, Lecce*

<sup>4</sup> *National Research Council, Institute of Ecosystem Study, Verbania Pallanza*

<sup>5</sup> *University Ca' Foscari, Department of Environmental Sciences, Informatics and Statistics, Venezia, Italy*

<sup>6</sup> *National Research Council, Institute for Electromagnetic Sensing of the Environment, Milano, Italy*

<sup>7</sup> *National Research Council, Institute of Marine Sciences, Venezia, Italy*

<sup>8</sup> *Department of Earth and Marine Sciences, University of Palermo, Palermo, Italy*

<sup>9</sup> *Stazione Zoologica Anton Dohrn, Naples, Italy*

\* e-mail: [ilaria.rosati@unisalento.it](mailto:ilaria.rosati@unisalento.it)

Functional trait-based research has undergone an extraordinary expansion in the last thirty years, producing a large quantity of heterogeneous and distributed data to be harmonized and standardized in order to support and facilitate the research in this field. A first step toward this challenge is to define the set of concepts that form the basis of this particular domain of knowledge, thereby developing semantic tools as thesauri for functional trait-based approaches. Here we present the recent development of two thesauri concerning functional traits: PhytoTraits and FishTraits thesaurus. Thesauri reflect the agreement of a scientific expert community to fix semantic properties (e.g. definition) of approximately 100 phytoplankton traits and 60 fish traits. Thesauri are built using TemaTres, a web-based tool, open-source, for the collaborative development and management of a thesaurus and they are defined through the SKOS format. As a consequence, such thesauri will serve as a stable reference resource, specifically when available as linked data on the web. Additionally, we present a use case showing how these thesauri could significantly reduce the barriers to data discovery, integration, and exchange among biodiversity resources (e.g. LifeWatch Dataportal), if adopted as a standard and rigorously applied and enriched by the scientific community.