

Conference Abstract

Towards "Biodiversity PMC"

Emilie Pasche[‡], Donat Agosti[§], Lyubomir Penev^{||}, Quentin Groom[#], Alexandre Flament[‡],
Julien Gobeill[‡], Patrick Ruch^{¶,«}

[‡] SIB & HES-SO, Geneva, Switzerland

[§] Plazi, Bern, Switzerland

^{||} Pensoft Publishers & Bulgarian Academy of Sciences, Sofia, Bulgaria

[¶] Institute of Biodiversity & Ecosystem Research - Bulgarian Academy of Sciences and Pensoft Publishers, Sofia, Bulgaria

[#] Meise Botanic Garden, Meise, Belgium

[¶] SIB Swiss Institute of Bioinformatics, Geneva, Switzerland

[«] HES-SO, HEG Geneva, Geneva, Switzerland

Corresponding author: Patrick Ruch (patrick.ruch@sib.swiss)

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Abstract

The [Swiss Institute of Bioinformatics](#) (SIB) Literature services ([SIBiLS](#), Gobeill et al. 2020) provides powerful search capabilities to explore the life and health sciences literature by mirroring the United States National Institute of Health's National Library of Medicine (NIH/NLM) ([MEDLINE](#)) and National Center for Biotechnology Information (NCBI) [PubMed Central](#)® contents.

In the course of the [BiCIKL](#) project, SIBiLS started indexing a larger set of biodiversity-related contents in the broad sense including environmental sciences and ecology, to build a new literature database called "Biodiversity PMC". In addition to MEDLINE and PubMed Central, SIBiLS is now providing a unique entry point to half a million taxonomic treatments extracted by [Plazi](#), as well as to a growing set of full-text article XMLs from [Pensoft](#), which were not included into the original PubMed Central. The services can be accessed via a new [Graphic User Interface](#) and an [OpenAPI](#). In addition to usual search operators (using the [Apache Lucene](#) syntax), the contents are normalized using a large collection of life sciences terminologies and [ontologies](#). Each instance of a term (or its synonym) is normalized with a unique accession number to support a semantically richer search experience. Of particular interest for the biodiversity communities, SIBiLS contents are normalized using [ENVO](#) (Environmental Ontology). Further, taxonomic names are

normalized using both the [NCBI Taxonomy](#) and the [Open Tree of Life](#), which include names from the [Catalogue of Life](#). The resulting data graph contains 12 billion normalized descriptors and supports access via keyword search, as well as via an original question answering interface, which can help provide new perspectives when navigating the life and health sciences. The data (Journal Publishing Tag Set, [JATS](#), and [BioC](#)) are fully available under [CC-BY 4.0 licences](#).

Keywords

literature services, information retrieval, named entity recognition, question answering interface

Presenting author

Patrick Ruch

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Conflicts of interest

The authors have declared that no competing interests exist.

References

- Gobeill J, Caucheteur D, Michel P, Mottin L, Pasche E, Ruch P (2020) SIB Literature Services: RESTful customizable search engines in biomedical literature, enriched with automatically mapped biomedical concepts. *Nucleic Acids Research* 48 <https://doi.org/10.1093/nar/gkaa328>