lit-tag: an app for adding custom tags and notes to a citation database

04 December 2025

Summary

To facilitate the review, evaluation and analysis of scientific literature, the lit-tag shiny app provides a convenient interface for users to generate a citation database with custom, user-defined tags and notes. Lit-tag is not subject-specific and is useful for any field of research. Starting with a table of citations exported from a Zotero library and a user-generated Excel file describing a set of tags and notes fields, lit-tag provides tools for assigning tags and notes to papers ("lit-tag-builder" module) and for exporting, graphing, and generating reports from the resulting database ("lit-tag-viewer" module). The application has been used in several scientific reviews related to marine carbon dioxide removal Grabb, Wood, and McElhany (n.d.).; McElhany et al. (n.d.).

Statement of need

Scientific literature review and meta-analysis projects often involve summarizing the contents of many, often hundreds, of papers Snyder (2019). During the review, data are collected on many different attributes of the study (e.g., experiment type, treatment conditions, location, results, etc.). Although literature review projects may start out collecting this information in a spreadsheet, the approach quickly becomes unwieldy as the number of papers and attributes increases. At the same time researchers are compiling data on the contents of papers, they need to conveniently collect and use the full citation information for each paper. The lit-tag app links the contents of a library generated with Zotero Digital Scholar (2025), an open-source reference management software which has tools for easily downloading citation information and adding references to documents, with a database of user-defined paper attributes and notes.

Design

The lit-tag app has two modules: 1) lit-tag-builder for generating, editing and updating the database and 2) lit-tag-viewer for generating tables, graphs and reports from the database Figure 1.

The main editing tab in the builder module contains panels for paper selection, viewing paper details, notes and tagging Figure 2. Other tabs in the builder module have tools for syncing with the Zotero database when adding new papers, database maintenance for global edits of the database (e.g., renaming a tag option), creating and linking to a new Zotero database and the module user guide.

The viewer module contains options for searching and filtering the database (including custom searches using R syntax), plotting summary tables using any tag variable Figure 3, and generating custom tables (csv files) and reports (html, pdf or word).

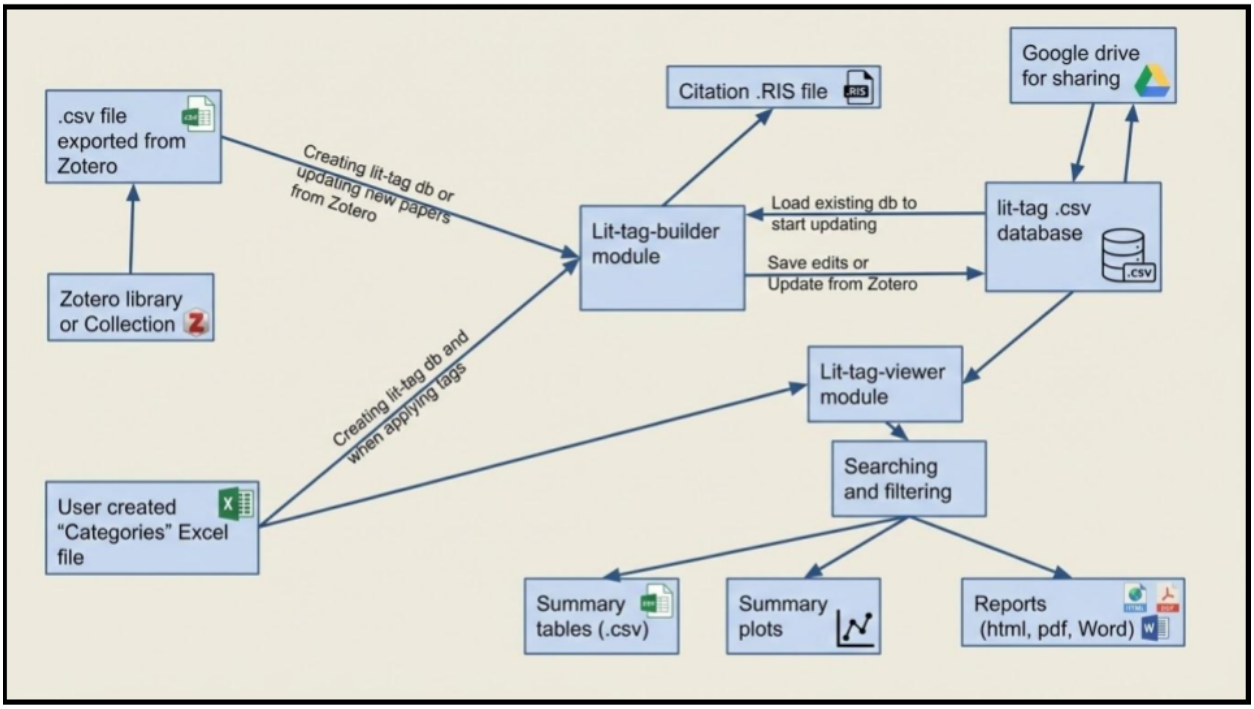

Figure 1: Relationship between Zotero, lit-tag-builder module, lit-tag-viewer module and imported/exported files.

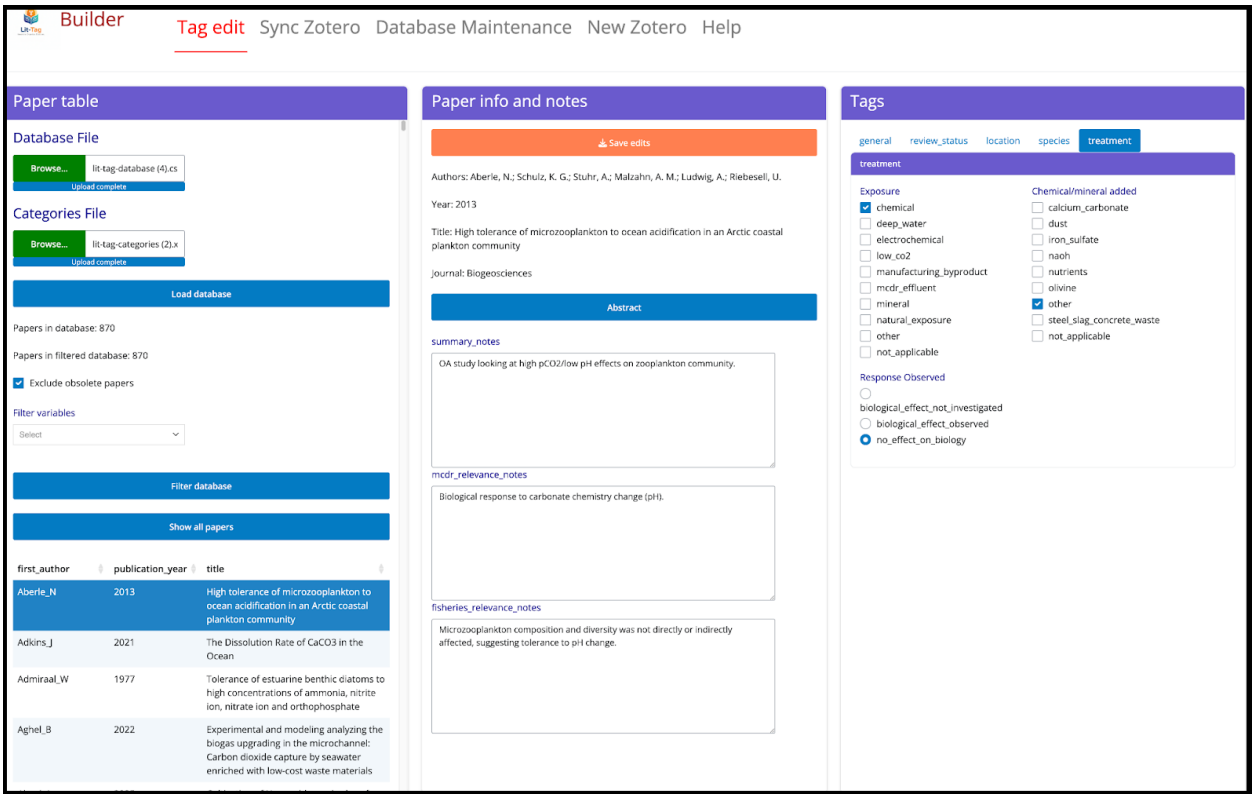

Figure 2: Example screen shot of the "Tag edit" tab of lit-tag-builder module user interface.

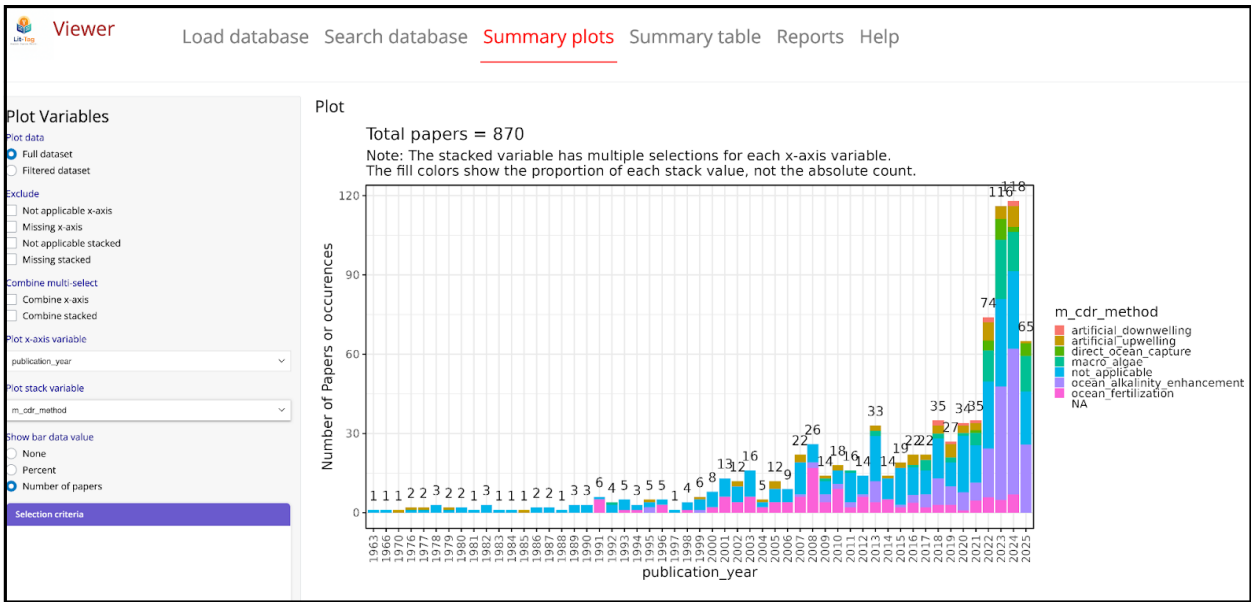

Figure 3: Example screen shot of the "Summary plots" tab of the lit-tag-viewer module.

Acknowledgements

Madison Wood's work on this project was supported by a Sea Grant Knauss Fellowship. We would also like to thank the International Council for the Exploration of the Sea (ICES) mCDR x Fisheries Workshop group for inspiration and app testing.

References

Digital Scholar. 2025. *Zotero*. Digital Scholar. https://www.zotero.org/.

Grabb, Kalina, Madison Wood, and Paul McElhany. n.d. "An Annotated Literature Database to Support Research on Marine Carbon Dioxide Removal (mCDR) and Fisheries Impacts."

McElhany, Paul, Mattias Cape, Giulia Faucher, Christina Frieder, Lenaig Hemery, Debora Iglesias-Rodriguez, and Chris Murray. n.d. "Biological Thresholds for mCDR Changes to Seawater Carbonate Chemistry."

Snyder, Hannah. 2019. "Literature Review as a Research Methodology: An Overview and Guidelines." *Journal of Business Research* 104 (November): 333–39. https://doi.org/10.1016/j.jbusres.2019.07.039.