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The LOTUS initiative and its links to WikiCite

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This session is recorded: Please mute your microphone and camera when you're not speaking.

What is the LOTUS initiative?

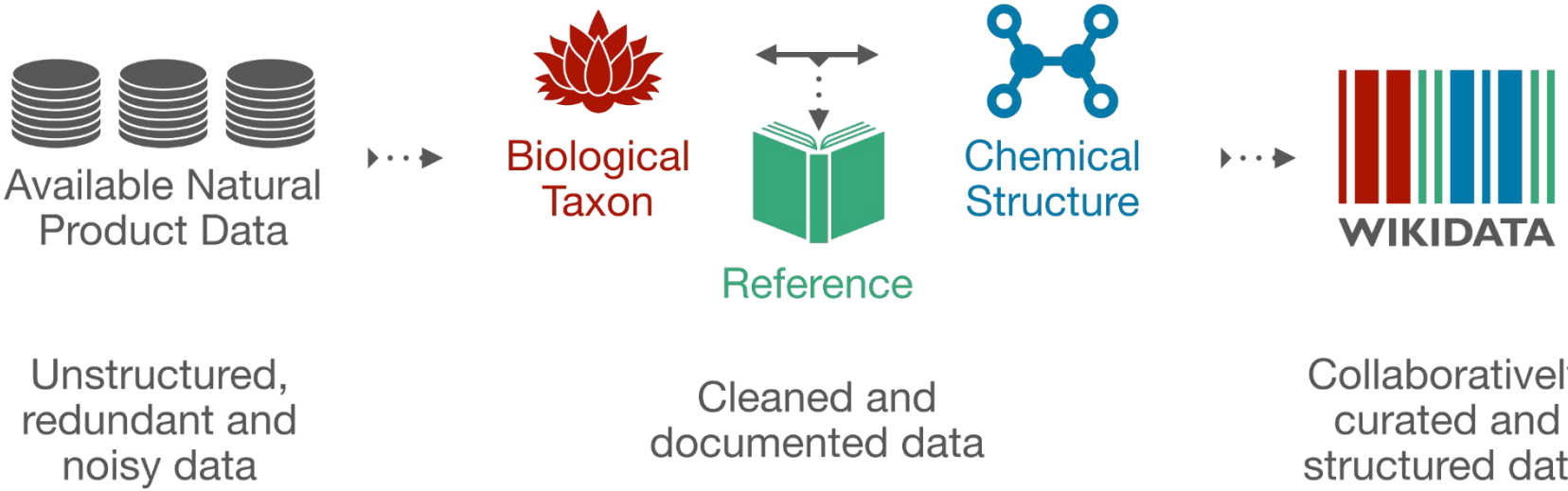

Image from https://commons.wikimedia.org/wiki/File:Lotus_initiative_1_graphical_abstract.svg, Wikimedia Commons contributors, CC0

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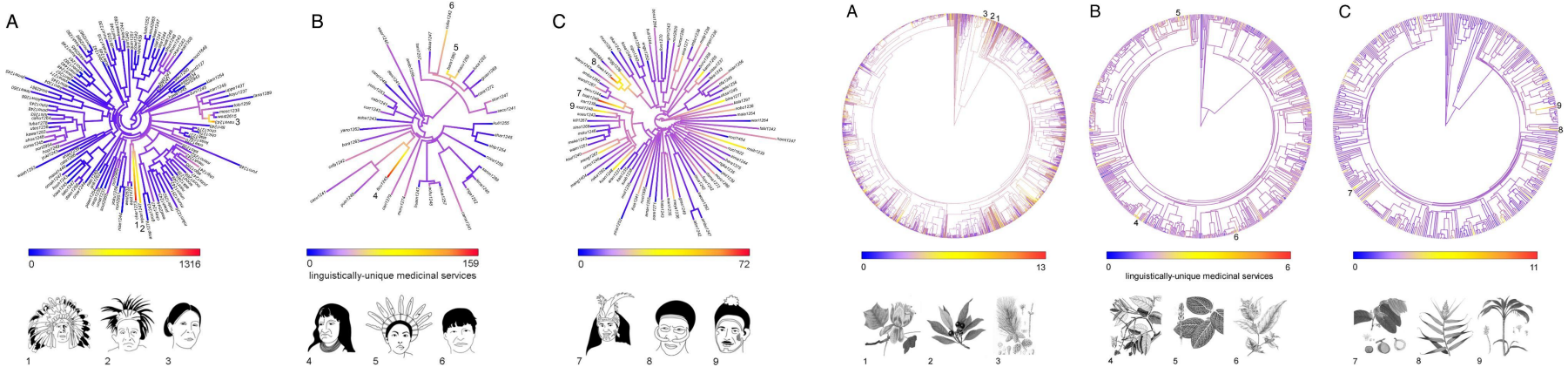
The *why* of our initiative

Images from
https://doi.org/10.1073/pnas.2103683118



"Our finding of high uniqueness in indigenous knowledge and strong coupling with threatened languages suggests that language loss will be even more critical to the extinction of medicinal knowledge than biodiversity loss"

R. Cámara-Leret, & J. Bascompte - *Language extinction triggers the loss of unique Medicinal knowledge. Proc. Natl. Acad. Sci. U.S.A. 118 (24) e2103683118, https://doi.org/10.1073/pnas.2103683118 (2021).*

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The *how* of our initiative

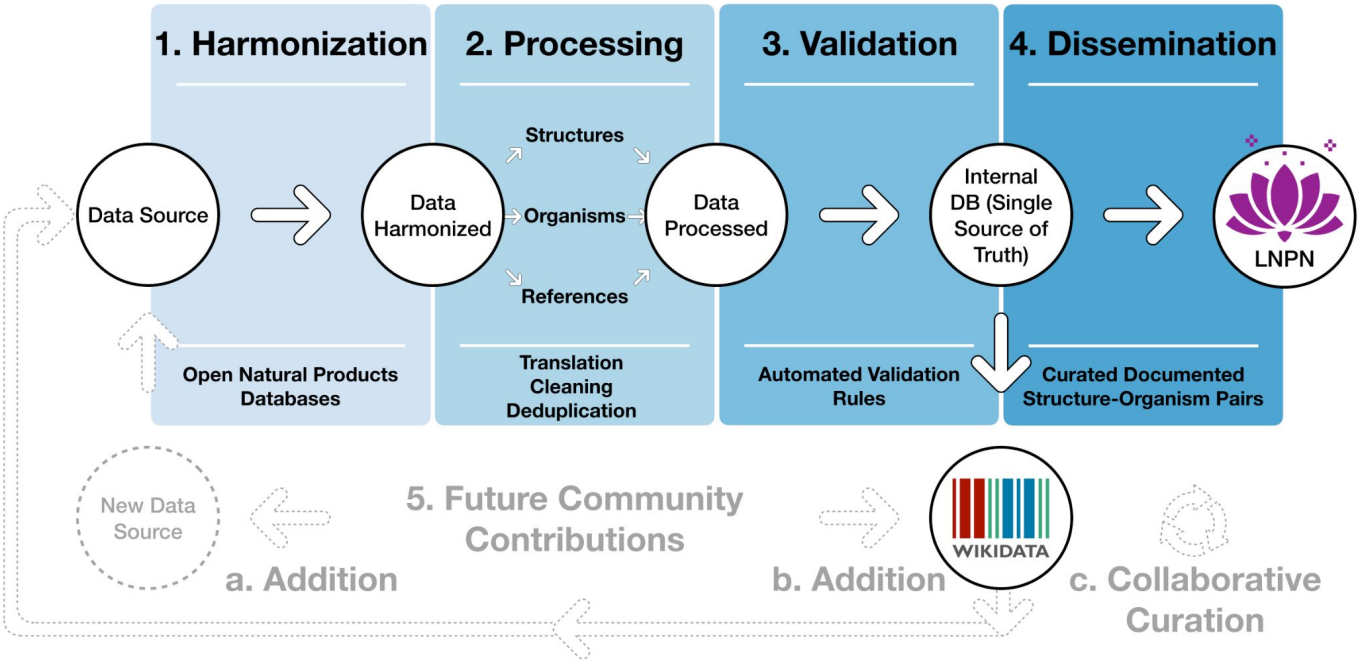

Image from https://commons.wikimedia.org/wiki/File:Lotus_initiative_1_blueprint.svg, Wikimedia Commons contributors, CC0

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A simple example

	Chemical compound	Biological organism	Reference
Before curation	Cyathocaline	Stem bark of Cyathocalyx zeylanica CHAMP. ex HOOK. f. & THOMS. (Annonaceae)	Wijeratne E. M. K., de Silva L. B., Kikuchi T., Tezuka Y., Gunatilaka A. A. L., Kingston D. G. I., J. Nat. Prod., 58, 459-462 (1995).
After curation	VFIIVOHWCNHINZ-U HFFFAOYSA-N	*Cyathocalyx zeylanicus*	10.1021/NP50117A020

Table: Example of a referenced chemical compound-biological organism pair before and after curation

Table reproduced from https://doi.org/10.7554/eLife.70780, Rutz et al. CC BY 4.0

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On Wikidata (Q27265641)

Image from https://doi.org/10.7554/eLife.70780, Rutz et al. CC BY 4.0

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LOTUS items' statistics

On **2025-08-22**:

- **672,600** referenced chemical-taxon pairs (https://qlever.cs.uni-freiburg.de/wikidata/wL9c9d)
- **227,134** chemical entities (https://qlever.cs.uni-freiburg.de/wikidata/ZNDowA)
- **37,461** taxa (https://qlever.cs.uni-freiburg.de/wikidata/GoyWrU)
- **91,385** references (https://qlever.cs.uni-freiburg.de/wikidata/gWabZJ)
- **91,333** DOIs (https://qlever.cs.uni-freiburg.de/wikidata/F0MfJd)
- **12,611** authors (https://qlever.cs.uni-freiburg.de/wikidata/6yYhvA)
- **171,324** author name strings (https://qlever.cs.uni-freiburg.de/wikidata/YTjXZo)

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The LOTUS initiative's links to WikiCite

LOTUS

Biological Taxon

Chemical Structure

Reference

{ } wikicite

Scholarly articles main subjects (P921)

Q105223855

found in taxon

Prunus cerasus — edit

1 reference

stated in: Flavonoid 5-glucosides from Prunus cerasus bark and their characteristic weak glycosidic bonding

+ add reference

Prunus speciosa — edit

1 reference

stated in: Flavonoids of Various Prunus Species. II. The Flavonoids in the Wood of Prunus speciosa

+ add reference

Daphne esquirolii — edit

1 reference

Phaleria nisidai — edit

1 reference

stated in: Genkwanin glycosides are major active compounds in Phaleria nisidai extract mediating improved glucose homeostasis by stimulating glucose uptake into adipose tissues

+ add reference

Q135917754

main subject

Genkwanin 5-glucoside — edit

found in taxon: Phaleria nisidai

1 reference

inferred from: reverse claim

+ add reference

Phaleria nisidai — edit

1 reference

based on heuristic: inferred from title

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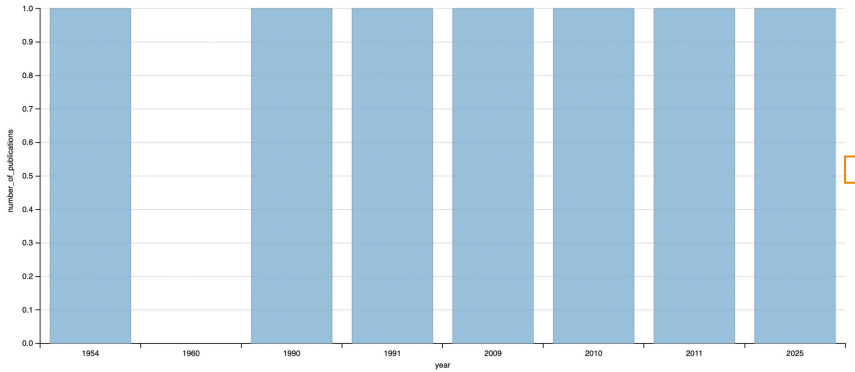
On Scholia

Q105223855

Publications per year

More details on literature about this chemical can found found on the *topic* aspect page.



Taxa in which the chemical was found

Reload

Search:

Taxon	Source	Doi
Wikstroemia canescens	Flavonoids from the aerial parts of Diplomorpha canescens.	10.1248/CPB.58.859
Prunus speciosa	Flavonoids of Various Prunus Species. II. The Flavonoids in the Wood of Prunus speciosa	10.1021/JA01650A087
Prunus cerasus	Flavonoid 5-glucosides from Prunus cerasus bark and their characteristic weak glycosidic bonding	10.1016/0031-9422(91)84200-C

Q135917754

Supports the following statement(s)

Reload

Statements in Wikidata supported by references to this work. Only a maximum of around 2000 statements are shown.

Search:

Item	Property	Value	Unit
mangiferin	found in taxon	Phaleria nisidai	
isovitexin	found in taxon	Phaleria nisidai	
Yuankanin	found in taxon	Phaleria nisidai	
Iriflophenone3-C-β-glucoside	found in taxon	Phaleria nisidai	
Iriflophenone 2-O-rhamnoside	found in taxon	Phaleria nisidai	
Genkwanin 5-glucoside	found in taxon	Phaleria nisidai	
6'-O-Acetylmangiferin	found in taxon	Phaleria nisidai	
2'-O-Acetylmangiferin	found in taxon	Phaleria nisidai	
2-C-β-Glucofuranosylmangiferin	found in taxon	Phaleria nisidai	
2-C-α-Glucofuranosylmangiferin	found in taxon	Phaleria nisidai	

WDQS legacy-full-graph

work: statements.sparql

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Articles accessibility status (P6954 / P7228)

On **2025-08-22**:

- **23,729 / 91,385 (26%)** references are **open access** (Q232932) (https://qlever.cs.uni-freiburg.de/wikidata/HbtAzm)
- **41,859** (**46%**) references with associated **PubMed ID** (P698) (https://qlever.cs.uni-freiburg.de/wikidata/FebmBD)
- **4,528** (**5%**) references with associated **PubMed Central ID** (P932) (https://qlever.cs.uni-freiburg.de/wikidata/7mKXy3)

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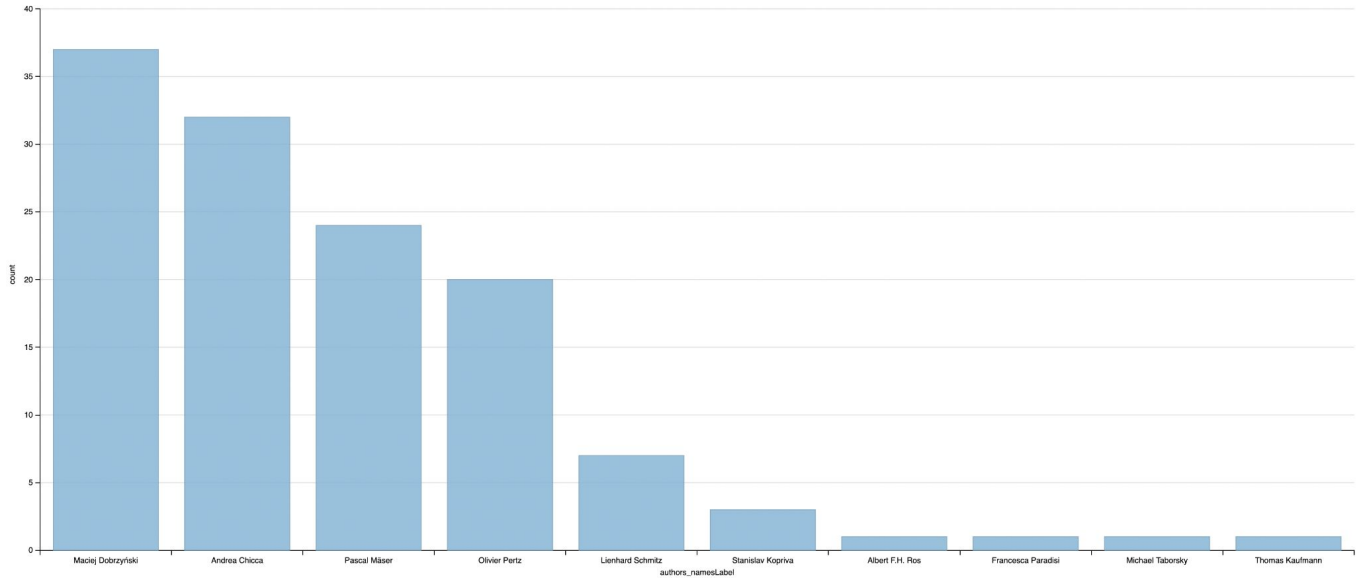
Example queries

Example queries

Authors affiliated to the University of Bern (Q659080) that reported natural products (https://w.wiki/F3oX)



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Example queries

Authors that studied monoterpenoid indole alkaloids (Q109323369) (https://w.wiki/FB4d)

Authors that studied monoterpenoid indole alkaloids (Q109323369)

Search

author	authorLabel	works	mias
wd:Q88626236	Toh-Seok Kam	82	538
wd:Q2040722	Rob Verpoorte	32	161
wd:Q134269423	Georges Massiot	21	165
wd:Q56744752	Michel Frédérich	20	96
wd:Q43028096	Yun-Yee Low	17	117
wd:Q19667267	Norman Farnsworth	17	53
wd:Q123057466	Deborah V. L. Hirst	13	4

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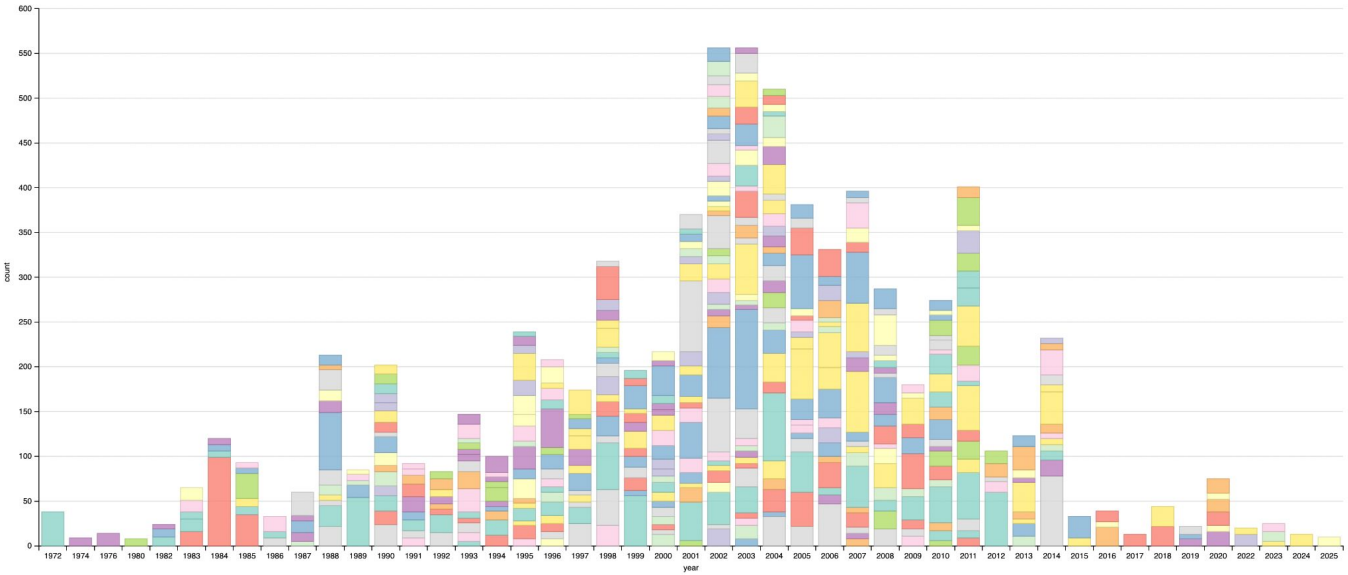
Example queries

Which biological families (Q35409) have been investigated by recipients of the Society of Medicinal Plants and Natural Product Research (Q25894736) awards? (https://w.wiki/FB4s)



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Outlook and challenges

Challenges

The graph split

> *"The graph split feels like a failure because technical alternatives existed (e.g. QLever), it fractured communities like WikiCite that relied on integrated data, and ideologically it undermines Wikidata's vision of being a unified, open knowledge graph—while raising barriers for newcomers and paving the way for more fragmentation."*

Rutz Adriano - *WikiCite 2025, Bern*

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Outlook

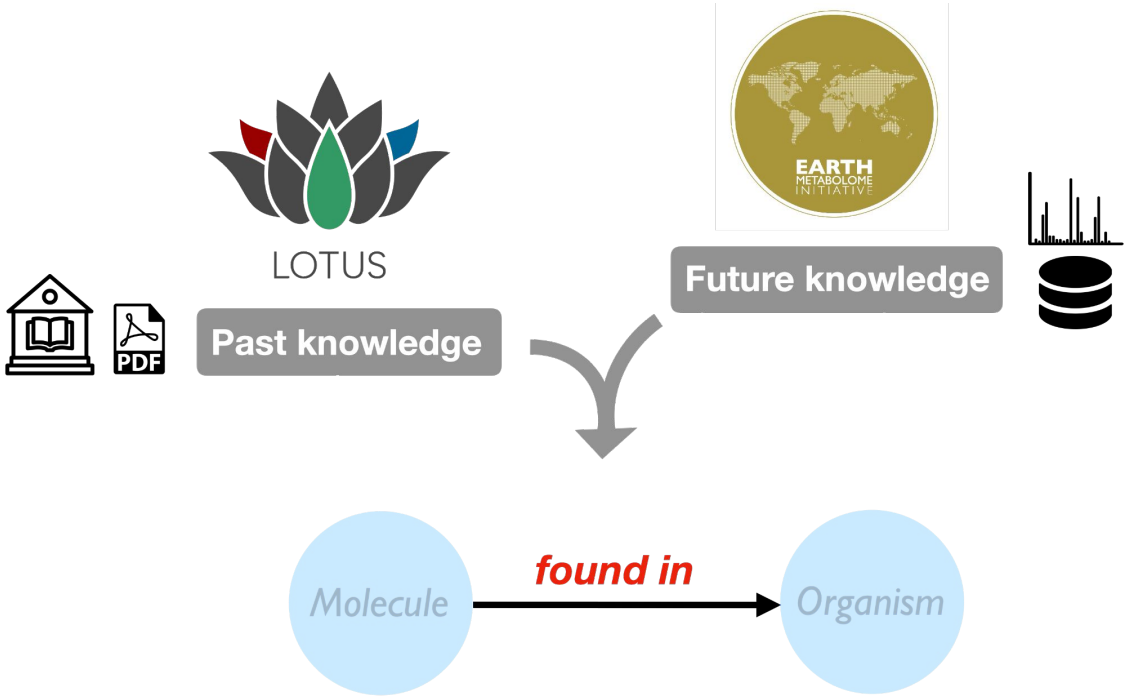

Image from
https://doi.org/10.5281/zenodo.10654974,
Allard et al. CC BY 4.0

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Outlook

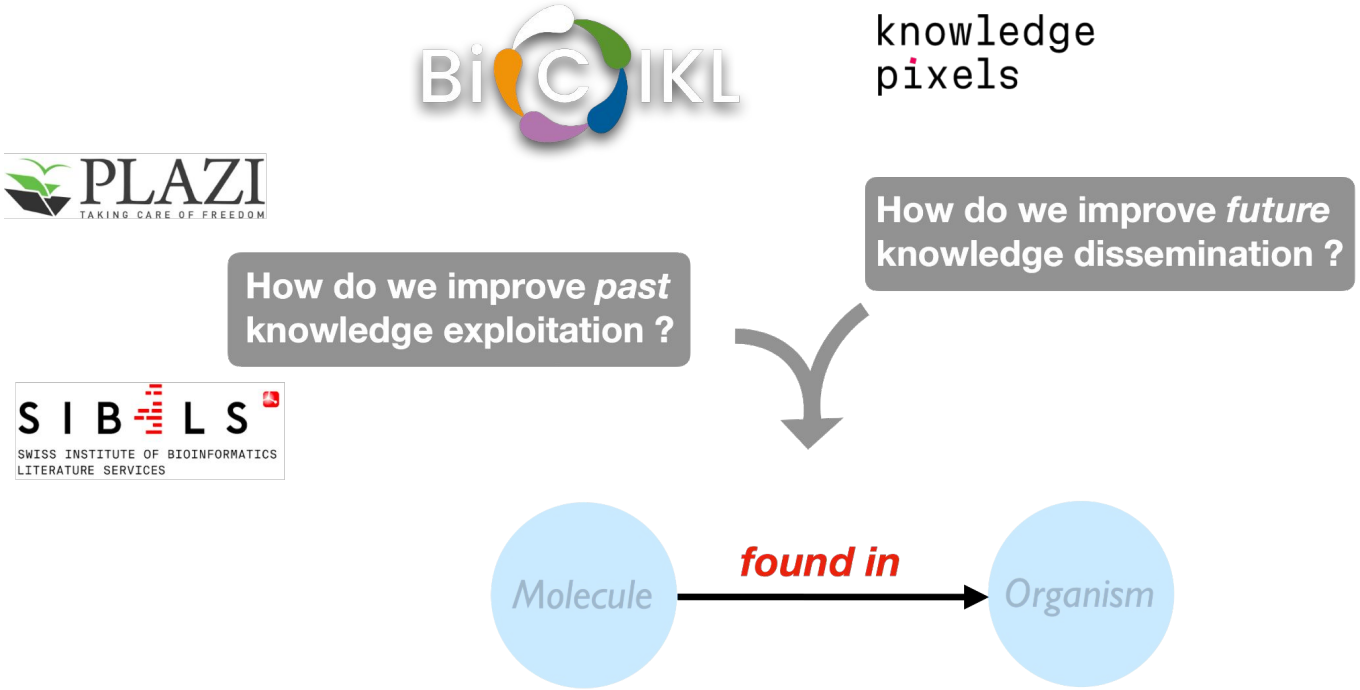

Image from https://doi.org/10.5281/zenodo.10654974, Allard et al. CC BY 4.0

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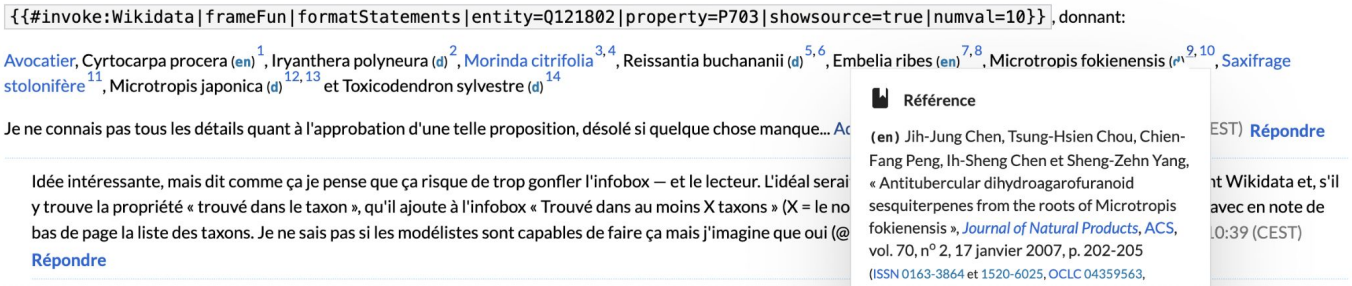
Outlook - Better integration with Wikipedia

- English Wikipedia (en-WP): Add_a_`found_in_taxon`_statement_from_Wikidata_in_the_chemical_infobox
- French Wikipedia (fr-WP): Infobox_Chimie#Ajout_de_"trouvé_dans_le_taxon"



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Thanks for your attention!

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All LOTUS initiants
https://lotus.nprod.net/people

Wikidata:WikiProject_Chemistry_Natural_products#Humans

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