BIOSIS CITATION INDEX

CRITICAL BIOSIS CONTENT, WITH THE POWER OF CITED REFERENCE INFORMATION

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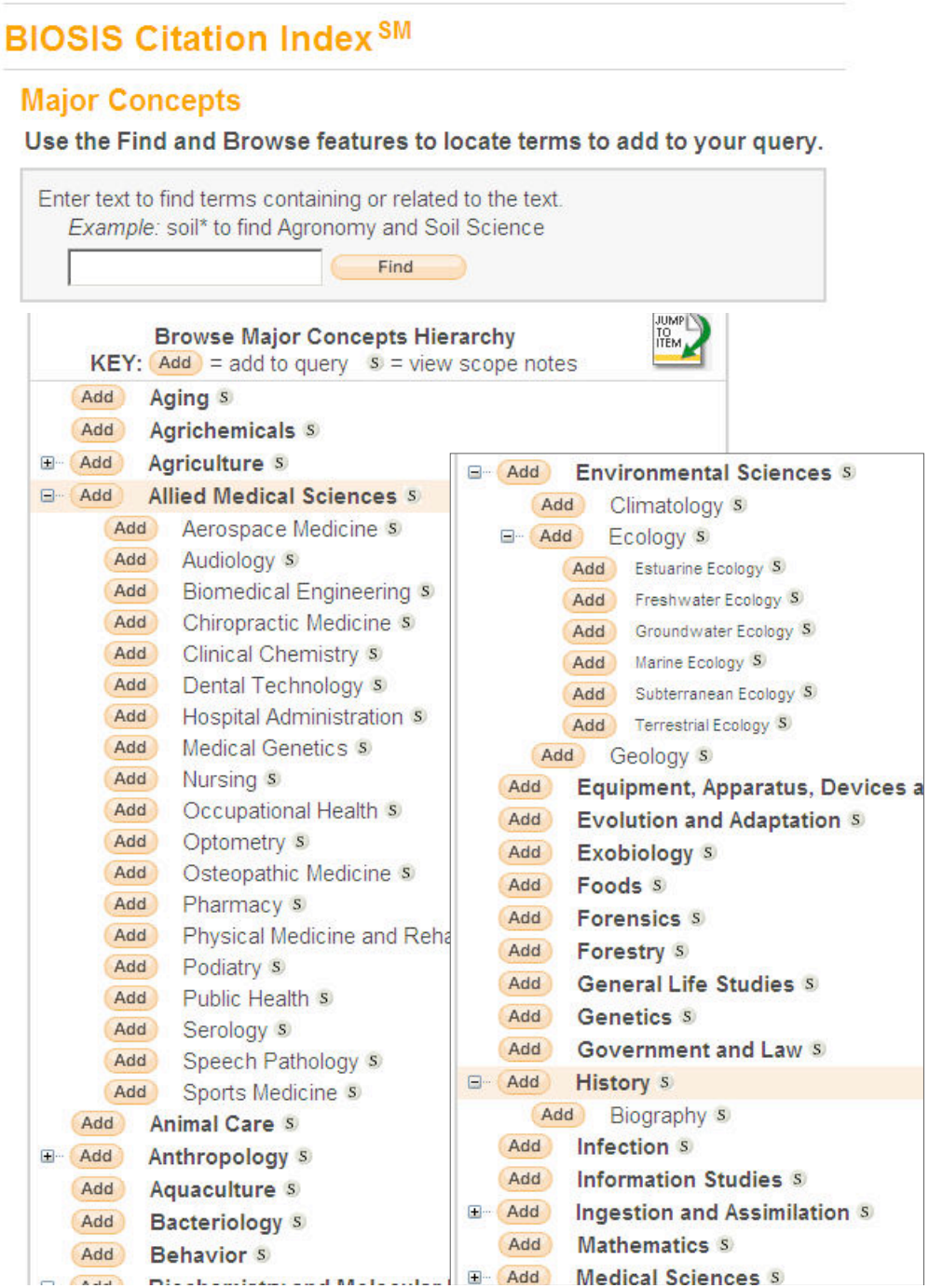
BIOSIS Citation Index

- Provides cited references for *BIOSIS Previews* content:
  - Cited references for BIOSIS unique items (beginning with 2006 production year data)
  - Cited references for BIOSIS items that overlap with items in the Web of Science (for all years, 1926 - forward)
  - All citation data is resident within the BIOSIS Citation Index database
- Provides for a unique BIOSIS times-cited count
- Available ***only on the Web of Knowledge platform.***

BIOSIS Citation Index

Coverage

- An amazing breadth of coverage in the Life Sciences and related fields of study.
- Over 5,200 journals and serials indexed.
- Coverage of Conference Proceedings, Books and Book Chapters, and Patents!



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BIOSIS Citation Index

Indexing

- Degreed biologists, understanding of the content, index the records in BIOSIS databases.
- Specialized, value-added Fields
  - Major Concepts
  - Concept Codes
  - Taxonomy
  - Chemical Data
  - Disease Data
  - Gene Data

…. and more

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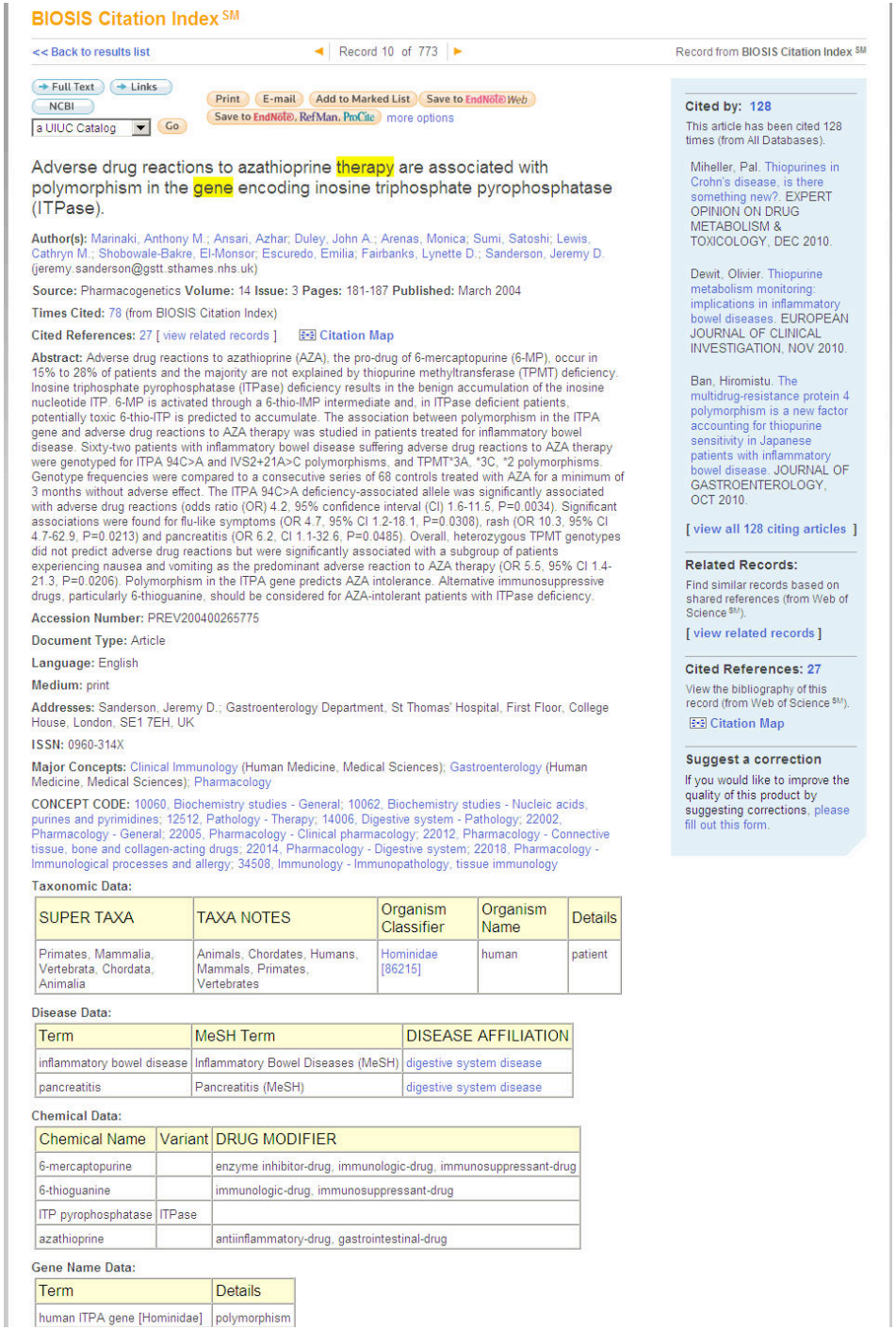

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Adverse drug reactions to azathioprine therapy are associated with polymorphism in the gene encoding inosine triphosphate pyrophosphatase (ITPase).

Author(s): Marinaki, Anthony M.; Ansari, Azhar; Duley, John A.; Arenas, Monica; Sumi, Satoshi; Lewis, Cathryn M.; Shobowale-Bakre, El-Monsor; Escuredo, Emilia; Fairbanks, Lynette D.; Sanderson, Jeremy D. (jeremy.sanderson@gstt.sthames.nhs.uk)

Source: Pharmacogenetics **Volume:** 14 **Issue:** 3 **Pages:** 181-187 **Published:** March 2004

Times Cited: 78 (from BIOSIS Citation Index)

Cited References: 27 [view related records] Citation Map

Abstract: Adverse drug reactions to azathioprine (AZA), the pro-drug of 6-mercaptopurine (6-MP), occur in 15% to 28% of patients and the majority are not explained by thiopurine methyltransferase (TPMT) deficiency. Inosine triphosphate pyrophosphatase (ITPase) deficiency results in the benign accumulation of the inosine nucleotide ITP. 6-MP is activated through a 6-thio-IMP intermediate and, in ITPase deficient patients, potentially toxic 6-thio-ITP is predicted to accumulate. The association between polymorphism in the ITPA gene and adverse drug reactions to AZA therapy was studied in patients treated for inflammatory bowel disease. Sixty-two patients with inflammatory bowel disease suffering adverse drug reactions to AZA therapy were genotyped for ITPA 94C>A and IVS2+21A>C polymorphisms, and TPMT*3A, *3C, *2 polymorphisms. Genotype frequencies were compared to a consecutive series of 68 controls treated with AZA for a minimum of 3 months without adverse effect. The ITPA 94C>A deficiency-associated allele was significantly associated with adverse drug reactions (odds ratio (OR) 4.2, 95% confidence interval (CI) 1.6-11.5, P=0.0034). Significant associations were found for flu-like symptoms (OR 4.7, 95% CI 1.2-18.1, P=0.0308), rash (OR 10.3, 95% CI 4.7-62.9, P=0.0213) and pancreatitis (OR 6.2, CI 1.1-32.6, P=0.0485). Overall, heterozygous TPMT genotypes did not predict adverse drug reactions but were significantly associated with a subgroup of patients experiencing nausea and vomiting as the predominant adverse reaction to AZA therapy (OR 5.5, 95% CI 1.4-21.3, P=0.0206). Polymorphism in the ITPA gene predicts AZA intolerance. Alternative immunosuppressive drugs, particularly 6-thioguanine, should be considered for AZA-intolerant patients with ITPase deficiency.

Accession Number: PREV200400265775

Document Type: Article

Language: English

Medium: print

Addresses: Sanderson, Jeremy D.; Gastroenterology Department, St Thomas' Hospital, First Floor, College House, London, SE1 7EH, UK

ISSN: 0960-314X

Major Concepts: Clinical Immunology (Human Medicine, Medical Sciences); Gastroenterology (Human Medicine, Medical Sciences); Pharmacology

CONCEPT CODE: 10060, Biochemistry studies - General; 10062, Biochemistry studies - Nucleic acids, purines and pyrimidines; 12512, Pathology - Therapy; 14006, Digestive system - Pathology; 22002, Pharmacology - General; 22005, Pharmacology - Clinical pharmacology; 22012, Pharmacology - Connective tissue, bone and collagen-acting drugs; 22014, Pharmacology - Digestive system; 22018, Pharmacology - Immunological processes and allergy; 34508, Immunology - Immunopathology, tissue immunology

Taxonomic Data:

SUPER TAXA	TAXA NOTES	Organism Classifier	Organism Name	Details
Primates, Mammalia, Vertebrata, Chordata, Animalia	Animals, Chordates, Humans, Mammals, Primates, Vertebrates	Hominidae [86215]	human	patient

Disease Data:

Term	MeSH Term	DISEASE AFFILIATION
inflammatory bowel disease	Inflammatory Bowel Diseases (MeSH)	digestive system disease
pancreatitis	Pancreatitis (MeSH)	digestive system disease

Chemical Data:

Chemical Name	Variant	DRUG MODIFIER
6-mercaptopurine		enzyme inhibitor-drug, immunologic-drug, immunosuppressant-drug
6-thioguanine		immunologic-drug, immunosuppressant-drug
ITP pyrophosphatase	ITPase	
azathioprine		antiinflammatory-drug, gastrointestinal-drug

Gene Name Data:

Term	Details
human ITPA gene [Hominidae]	polymorphism

Cited by: 128

This article has been cited 128 times (from All Databases).

Miheller, Pal. Thiopurines in Crohn's disease, is there something new?. EXPERT OPINION ON DRUG METABOLISM & TOXICOLOGY, DEC 2010.

Dewit, Olivier. Thiopurine metabolism monitoring: implications in inflammatory bowel diseases. EUROPEAN JOURNAL OF CLINICAL INVESTIGATION, NOV 2010.

Ban, Hiromistu. The multidrug-resistance protein 4 polymorphism is a new factor accounting for thiopurine sensitivity in Japanese patients with inflammatory bowel disease. JOURNAL OF GASTROENTEROLOGY, OCT 2010.

[view all 128 citing articles]

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Cited References: 27

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Citation Map

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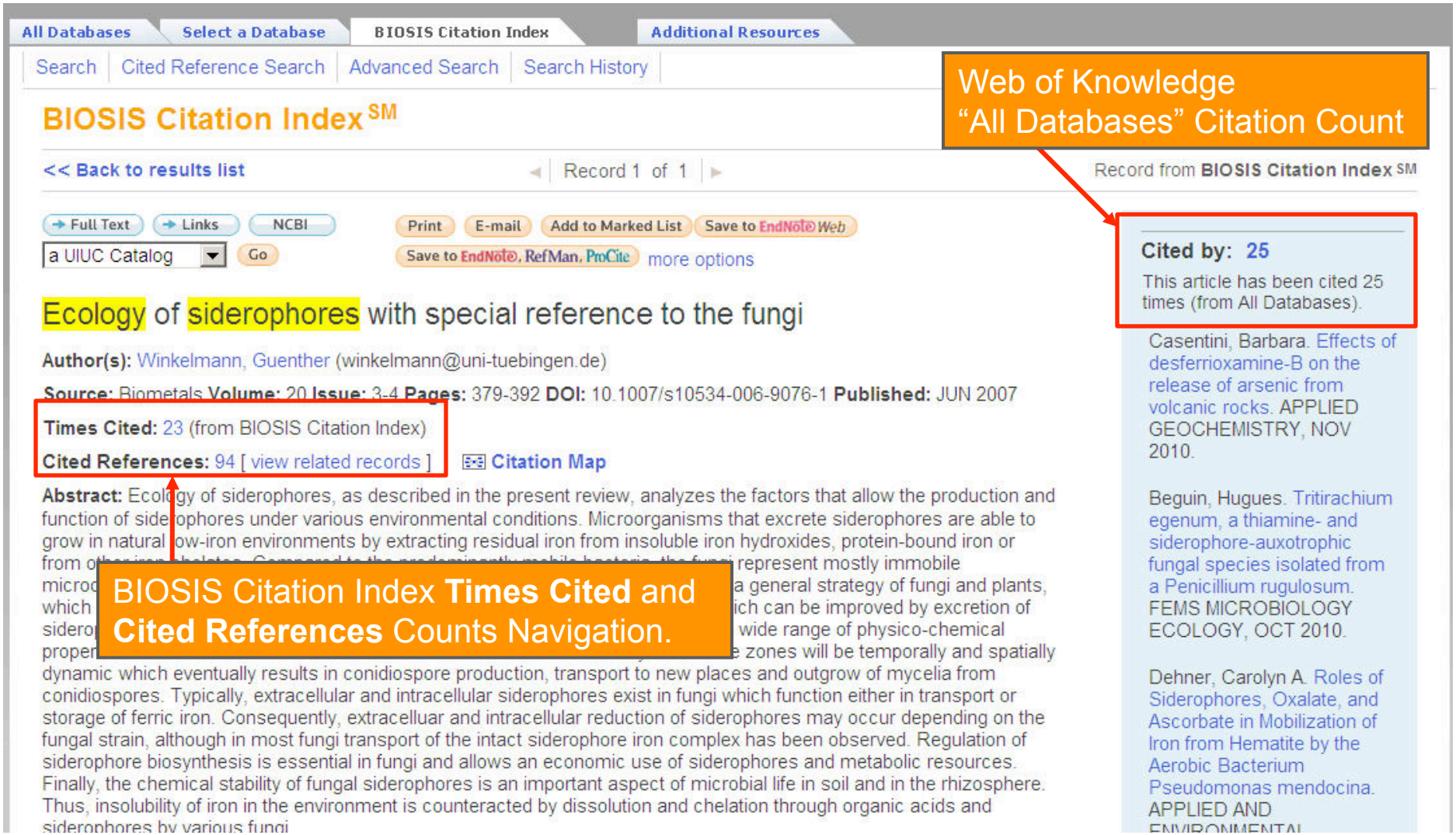

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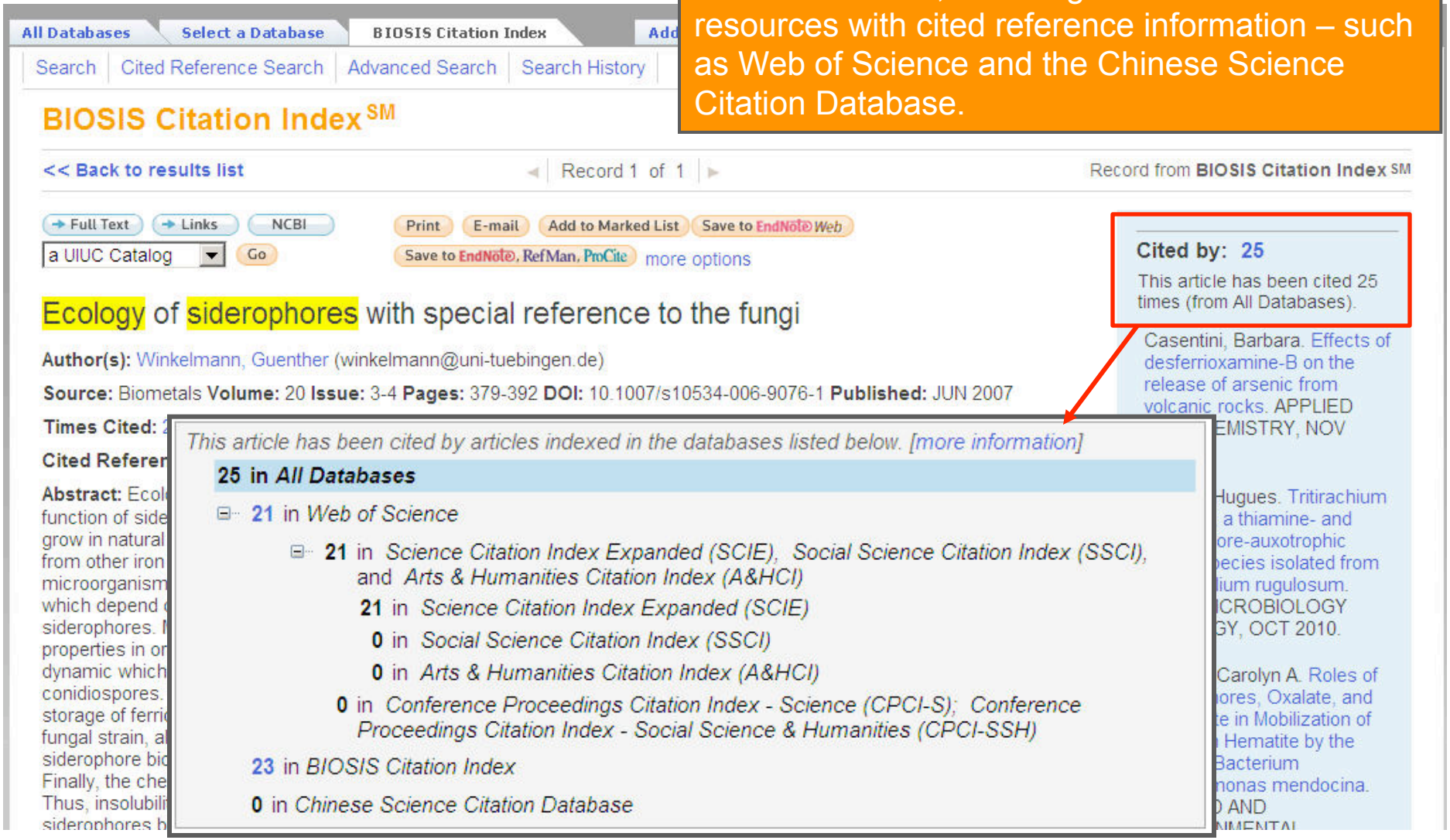
The Web of Knowledge 5 platform presents a full citation overview, including information from other resources with cited reference information – such as Web of Science and the Chinese Science Citation Database.



BIOSIS Citation Index
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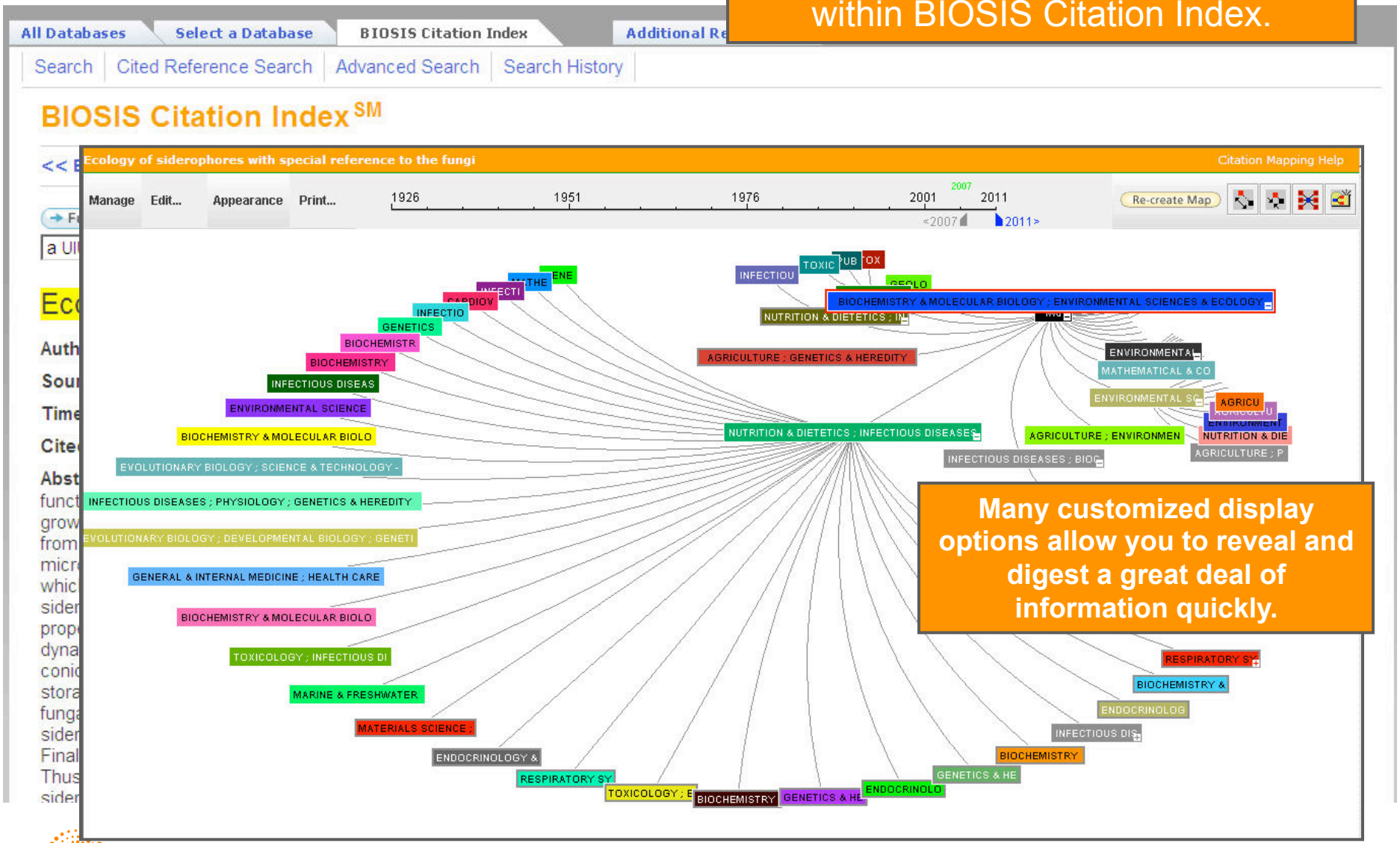
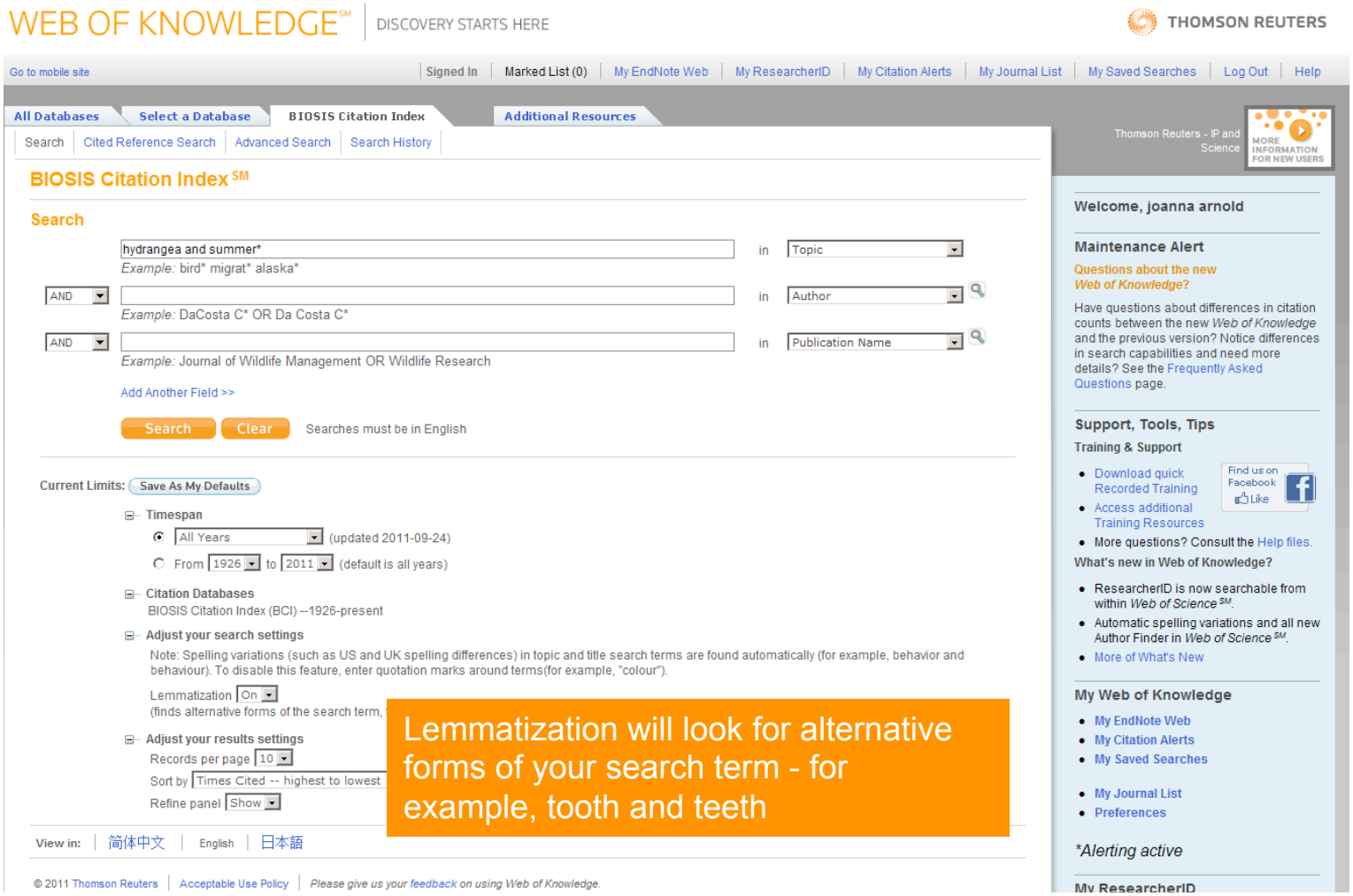
The “Citation Map” feature, hugely popular in Web of Science, is present within BIOSIS Citation Index.



BIOSIS Citation Index
with Web of Knowledge 5 Platform Features

BIOSIS Citation Index
with Web of Knowledge 5 Platform Features



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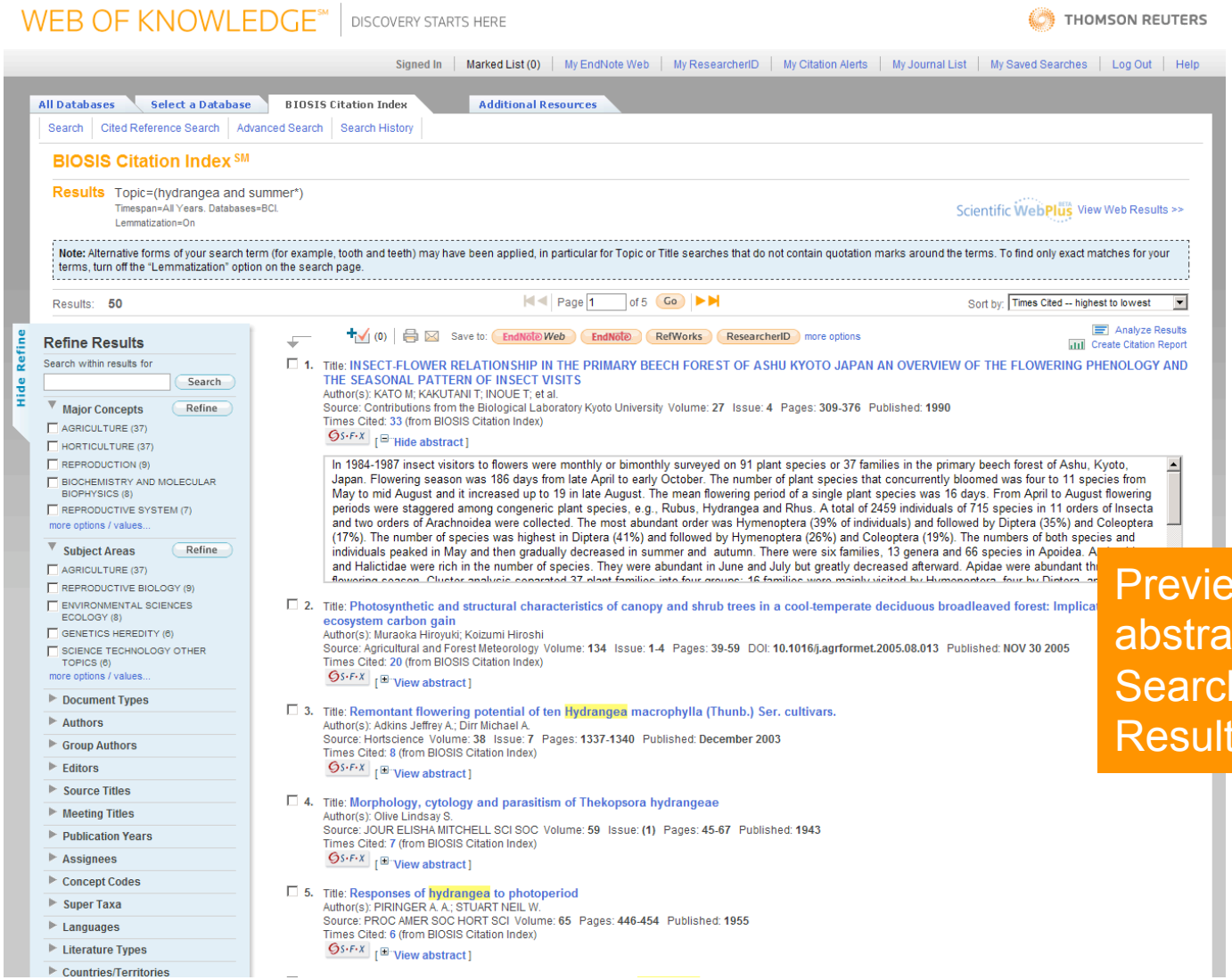
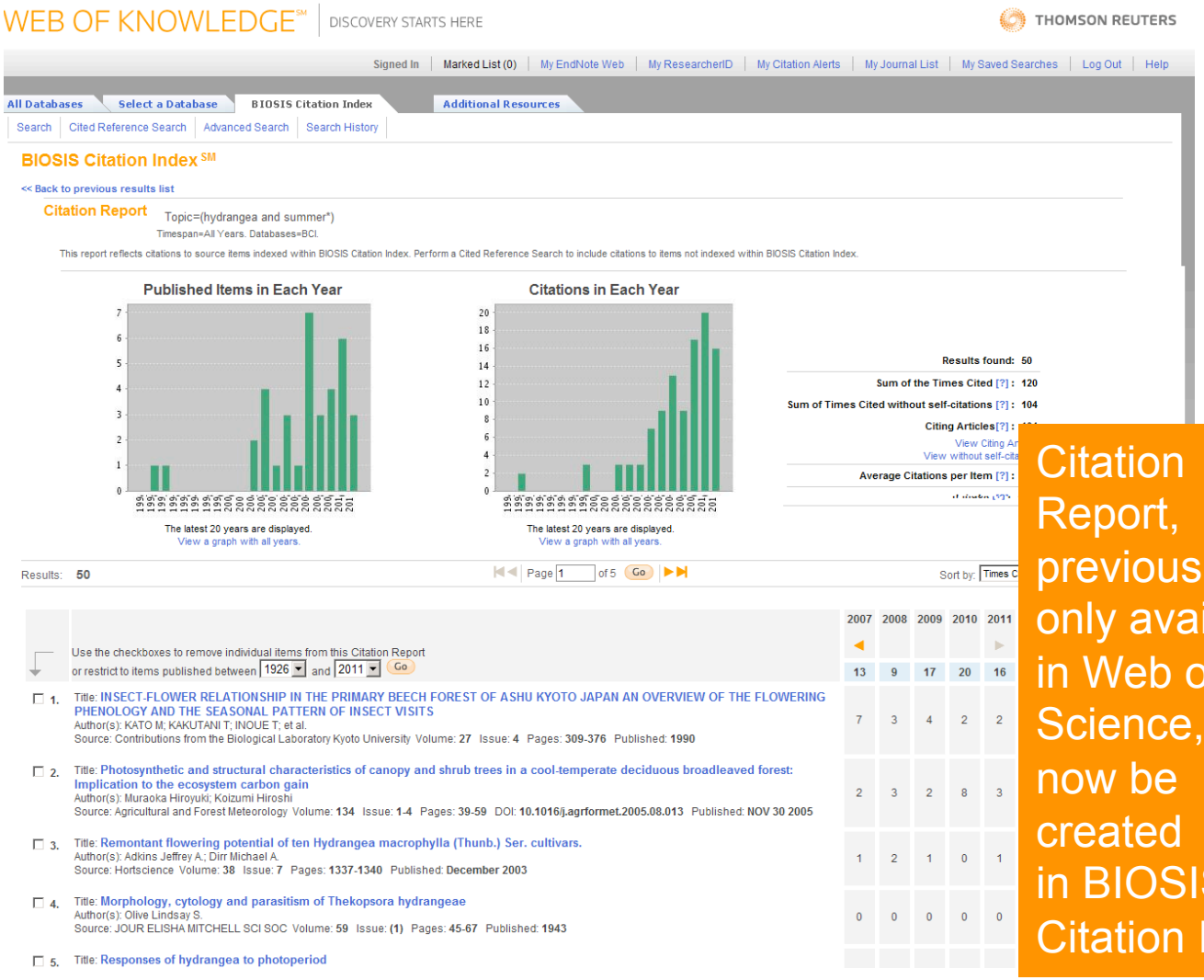


Preview abstracts on Search Results pages

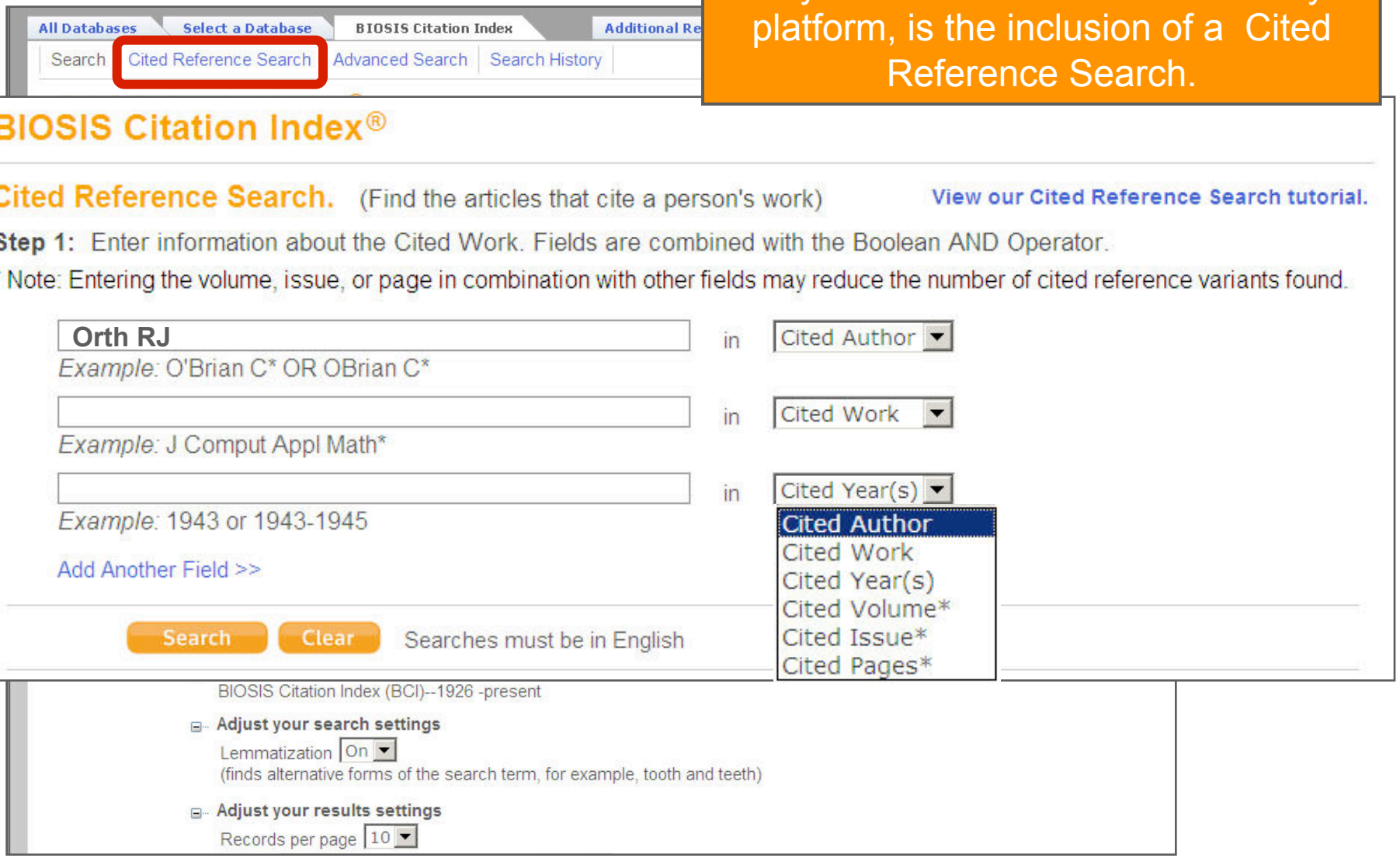
BIOSIS CITATION INDEX-- *CITATION REPORT*



Citation Report, previously only available in Web of Science, can now be created in BIOSIS Citation Index

BIOSIS Citation Index
-- Citation Information

The key **Search** component of BIOSIS Citation Index that separates it from any other BIOSIS resource on any platform, is the inclusion of a Cited Reference Search.



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