Repackaging of bibliographic database on entomology enhance access: A case study of Indian Science Abstract database

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Abstract
Present paper attempts to highlights the contribution of Indian entomologists in Indian Science Abstract online database. As the ISA database is an open source, 5 years database was browsed and efforts were made to check the research papers related to entomology. As it was first attempt total 308 papers were traced. In the study few parameters were used such as orders of insects, sources of publications, papers written on different aspects and journals mostly preferred by the entomologists. In the findings it was found that entomologists mostly write research papers on the order lepidoptera and few others. In case of publications it was noticed that most papers are published in annals of plant protection and then the journal Pestology. Considering the overall picture of Indian entomologists, author would like to suggest, the effective awareness should be created among the students, researchers and faculty and also a few core journals should be subscribed in the academic colleges where the subject entomology is taught.

Keywords: Insects, Database, ISA, Users, Entomologists.

Introduction
ISA is a semi-monthly abstracting publication of INSDOC and now NISCAIR. It publishes 24 issues annually. It was introduced in the year 1965. It is multidisciplinary database of science & technology. The basic purpose of initiating this service is to promote scientific knowledge in India support international abstracting service, develop and maintain permanent record of Indian scientific contribution and to provide information to science planners.

ISA covers original contribution of Indian scientists which includes short communications, reviews and informative articles published in scientific and technical periodicals, proceedings, monographs and other ad-hoc publications.

Repackaging of information is the collection and efficient organization of available material, analysis and creation of new packages from the same in order to enhance the quality of information and increase its utility.

Need of study: It is an important source of information for researchers, faculty and professionals of science discipline. It publishes every 15 days (fortnightly). It includes number of research papers in different publications on basic and applied science discipline.

As entomology is the major branch of zoology number of research papers publishes in ISA. Entomologists working in agricultural and non-agricultural universities and institutions, colleges, research laboratories, are engaged in research. Users of agriculture and related applied sciences prefer ISA as authentic source. It would be more effective and convenient to get easy access if the bibliographic database of entomology brought together and reorganised it in usable manner means considering the demands and expectations of the entomologists. It will help to enhance the access to entomology literature.

Objectives of Study
1. To study the contribution of Indian entomologists in ISA using different parameters.
2. To create awareness about ISA database among entomologists.
3. To put the bibliographical details together in consolidate form for easy access.

Hypothesis:
1. It seems ISA is common database among entomologists.
2. Participation of Indian entomologists in ISA is good.

Scope and Limitations: The study was related to research productivity of Indian entomologists based on ISA. The scope of the study covers field of entomology specifically. Total five years period of ISA publications i.e. 2011 to 2015 were browsed for this purpose.

Methodology
Archives of online bibliographic database of Indian Science Abstract archives were browsed. The information was searched with key word 'entomology'. Further titles of research papers abstracts written on entomology were copied and saved in excel file in one column to be used as raw data for processing. After completing browsing of database for target years, in the second step components of bibliographical details such as authors, publisher, state, year, and order were further separated and placed in separate columns for sorting purpose.

Data Analysis and Interpretation: In analysis it was found that out of 32 orders of insects mentioned in

subject reference sources the abstracts were written on 13 orders shown in the following table.

Table 1:

S.No.	Order of insects	Research Paper	%
1	Lepidoptera	110	35.6
2	Coleoptera	42	13.6
3	Hymenoptera	33	10.7
4	Diptera	29	9.71
5	Orthroptera	20	6.47
6	Hemiptera	19	6.15
7	Heteroptera	10	3.24
8	Odonata	09	2.91
9	Collembola	06	1.94
10	Homeptera	04	1.29
11	Anura	02	0.65
12	Thysanoptera	02	0.65
13	Phthiraptera	01	0.32
14	Thesis	07	2.27
	Oder not mentioned /identified	14	4.54
	Total	**308**	**100**

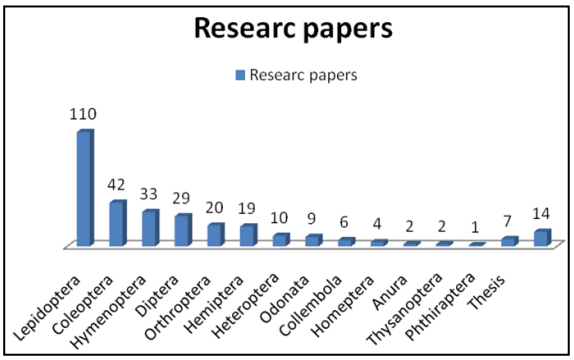

Fig. 1: Graph showing number of papers published on different insect orders

Above table indicates status of research papers published of different insect orders. Maximum research papers are published on Lepidoptera order 110 (38%) followed by Coleoptera 41 (14%) and Hymenoptera 33(12%). Very less number of research papers are published on Odonata 9 (3.1%), Collembola 6 (2.1%). Papers published on the order Homoptera are only 4 (1.4%) while on Thysonoptera and Anura is only 2 (0.7%).

This overall picture about different insect order shows entomologists prefer to work on very few insect orders. May be they do not notice different insect species of other orders.

Table 2: Distribution of research papers in different sources

S. No.	Publication source	Research Papers on	Number of Papers	%
1	Journals	Different orders	286	92.86
2	Journals	General nature (order of insect not mentioned)	15	4.87
3	Theses	Theses	07	2.27
		Total	**308**	**100**

Table 2 shows total 308 research papers published in journals and theses. It was found that out of these 308 research papers, 286 papers published 10 different orders, followed this 15 papers are of general nature considering common insects such as ecology, pests, insecticides in which order is not mentioned and remaining 7 Ph.D. theses work includes 4 orders given in table 3.

Table 3: Ph.D. theses on different insect orders

S. No.	Order	Number of articles	%
1	Diptera	03	42.86
2	Homoptera	01	14.29
3	Hymenoptera	01	14.29
4	Odonata	01	14.29
5	Not Mentioned	01	14.29
	Total	**07**	**100**

Table 3 shows the Ph.D. Theses abstracts published in ISA. In the 5 years span i.e 2011- 2015 total 7 abstracts were published. Out of these maximum 3 (42.86%) theses were found of Diptera order and 1 (14.29%) each on Homoptera, Hymenoptera and Odonata while order was not mentioned for one abstract. Ph.D. thesis position indicates entomologists prefer the order Diptera than the others.

Table 4: Distribution of General entomology papers on insect pest, insecticides and insect ecology

S. No.	Gen. Entomology	Number of articles	%
1	Insect pest	03	20.00
2	Insecticides	02	13.33
3	Insect Ecology	02	13.33
	Not mentioned	08	53.33
	Total	**15**	**100**

Table 4 represents that there are total 15 research papers published in ISA for which no order is mentioned. It means these papers are written on common insects In the given data, 3 research papers were found on insect pests followed 2 (13.33%) each on insecticides and on insect ecology. Whereas for remaining 8 (53.33%) research articles are not identified as the clue mentioned in the title.

Table 5: Twelve most preferred annals/journals by the entomologists in ISA

S.N.	Name of the Journal	No. of Papers published in
1	Annals of plant protection Science	117
2	Pestology	78
3	Journal of Insect Science	58
4	Journal of Experimental Zoology	50
5	Journal of entomology Research	43
6	Karnataka Journal of Agricultural Sci	30
7	Bioinfolet	27
8	Journal of Eco-friendly Agriculture	27
8.1	Pest Management & Agriculture System	23
9	Green Farming	21
9.1	Uttar Pradesh Journal of Zoology	21
10	Environment Ecology	20

Table 5 indicates the status of Annals/Journals preferred by the entomologists for contributing their research papers in ISA. Mentioned figures in table shows that most of the entomologists have published their research papers in 'Annals of plant protection Science' as maximum 117 found published in the said Annals. 78 papers found published in the journal 'Pestology' and hence it is at the second stage, Journal of Insect Sci. is noticed at third stage with 58 papers. Below 50 research papers were found published in remaining journals. Basic purpose of this table was to know the status or popularity of journals among entomologists and then suggest most common journals.

Difficulties faced: Investigator faced some difficulties while referring database. To name few bibliographical details of research papers are not given in uniform order, journal names are not complete and some places bibliographic details not mentioned.

Findings and Conclusion

This overall picture about different insect orders shows entomologists prefer to work on very few insect orders. May be they do not notice different insect species of other orders.

More than 94% were found on different orders of insects maximum published in journals and few in theses whereas nearly for 6% papers order was not mentioned may be they are related to common and different types of insects which covers more than one order.

About theses it was noticed that very few i.e. only 7 papers were found in ISA and most of it are on Diptera order.

15 papers were found on insecticides, insects pests and insect ecology. These papers are not related to any particular order.

In case of journals annals of plant protection science and the journal Pestology were found the most common among entomologists.

The hypothesis was proved as most of the users and entomologists are accessing the database but not up to the expectations.

Suggestions: Investigator would like to suggest followings:

1. Effective awareness should be created among the students, researchers and faculty where the subject entomology is taught even at UG level.
2. At least first few journals should be subscribed either on-line or print copy.
3. While writing the research paper entomologists should indicate order of the insect or if it is not possible then the subject should be mentioned.

References

1. Seetharama, S. (1997): Information consolidation and packaging. New Delhi, Ess Ess Publication.
2. Mani S M (1968): General Entomology. 3rd ed. Bombay, Oxford & IBH Publishing Co.,
3. Tembhare D. B. (1997): Modern entomology, 1st ed. Himalaya Publishing House, Mumbai.
4. http://www.niscair.res.in/sciencecommunication/abstractingjournals/isa.asp