
A SCIENTOMETRIC STUDY ON “INDIAN JOURNAL OF EXPERIMENTAL BIOLOGY (2013 - 2016)

Article Particulars

Received: 19.8.2017

Accepted: 12.10.2017

Published: 30.10.2017

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Abstract

In this study scientometric study examination of all the issues of Indian Journal of Experimental Biology from 2013 to 2016 was carried out. The aim of this study is to identify country-wise, year-wise distribution, authorship pattern and degree of collaboration. The study reveals that the range of articles published from four volumes, 478 articles; percentage of multi-authored papers is higher in 2013 and 2014; top 15 country-wise distribution of articles China is first; and area wise contribution of New Delhi is in the first Rank.

Keywords: Scientometrics, Indian Journal of Experimental Biology, Authorship Pattern, Yearwise distribution and contribution

Introduction

Scientometrics is the branch of the science of science. Haitun treats “scientometrics” as a “scientific description” which performs reproducible measurements of scientific activity and reveals its objective quantitative regularities.

According to him Scientometrics methods include statistical and thesaurus methods and indicators as to a number of citation and terms. There are two aspects within science namely

- The analytical aspect which deals with the general with the general laws of the development of science as knowledge system and a specific social institution and
- The creative aspect that deals with the development of practical recommendations for raising research efficiency.

Objectives of the study

The objectives of the study are as follows:

- To find out overall distribution pattern of contributions.
- To find out single vs multiple authors publications.
- To determine the degree of collaboration.

- To find out the authorship pattern of contribution.
- To find out top 15 country-wise contribution of articles.
- To find out area wise contribution.

Source of Journal

Indian Journal of Experimental Biology, a journal started in 1963, publishes full papers, notes and reviews in cell biology, genetic engineering, endocrinology, reproductive biology, immunology, developmental biology, comparative physiology, radiation biology, chronobiology, microbiology, pharmacology, toxicology and other biological fields including instrumentation and methodology.

The papers having experimental design involving alteration and/or manipulation in biological system(s) providing insight into their functioning are considered for publication. Studies involving higher animals, human beings and of clinical nature are not encouraged for publication in the journal. Review articles in frontier areas of contemporary relevance are also published.

Methodology

The data has been collected from SCI abstract (Science Citation Index abstract) printed version of Indian Journal of Experimental Biology. For each article following data have been noted:

- Overall distribution pattern of contributions & number of articles.
- Year-wise, Author-wise contribution & number of references.
- Geographically area-wise and other data required for the study.

All the necessary information are compiled, recorded, tabulated and analyzed for making observation as indicated in the objectives of the study.

Analysis and Distribution

Table 1 Overall Distribution pattern of contribution

Year	No. of Articles / Contributions in issues													Total	%
	Vol. No.	1	2	3	4	5	6	7	8	9	10	11	12		
2013	51	10	9	10	8	9	9	10	10	11	11	23	11	131	27.4
2014	52	11	11	10	11	23	11	10	11	10	11	15	8	142	29.7
2015	53	8	8	8	8	8	14	8	8	8	8	10	8	104	21.8
2016	54	8	8	8	8	8	8	8	8	8	8	13	8	101	21.1
Total														478	100

The above table shows that the number of articles published from 2013 to 2016. On the whole, from four volumes and 48 issues of the journal under study, the total number of articles published are 478. The distribution of articles by volume show that number of articles was highest in the year 2014 with 142 articles.

Table 2 Authorship Pattern of contribution

The following table shows that the yearwise contribution of authorship pattern.

No. of Authors	2013	2014	2015	2016	Total	%
One Author	1	4	2	3	10	2.09
Two Authors	19	25	19	18	81	16.95

Three Authors	31	37	22	23	113	23.64
Four Authors	26	25	16	16	83	17.36
Five Authors	18	20	13	15	66	13.81
More than 5	36	31	32	26	125	26.15
Total	131	142	104	101	478	100

Degree of Collaboration

To analyses the nature of researcher’s participation in research activity, the author productivity is tested. In this content the researcher aims at analyzing the degree of collaboration on article publication by the scientists, it enables one to examine the research trends in terms of author productivity. To examine the content of research collaboration of scientists of experimental biology Subramanian’s formula is adopted for the present study $Nm / (Nm + Ns)$, where C = degree of collaboration of scientists, Nm = No. of multiple authored papers, Ns = No. of single authored papers.

Table 3 Distribution shows single Vs multiple author publication

Year	Multiple Authors (Nm)	%	Single Author (Ns)	%	Total (Nm+ Ns)	%
2013	596	28.7	1	10	597	28.6
2014	596	28.7	4	40	600	28.8
2015	449	21.6	2	20	451	21.6
2016	436	21	3	30	439	21
Total No. of Authors	2077	100	10	100	2087	100

The above table shows that the single author total number of contribution is 10. The highest single author contribution is in the year 2014 (40%). The lowest single author contribution is in the year 2013 (10%).

Table 4 Top 15 Country Wise distribution of Articles published in Indian Journal of Experimental Biology

The following table shows that the highest contribution is from the China.

Name of the Country	Number of contributions	%	Rank
China	45	16.6	1
Iran	34	12.5	2
Brazil	29	10.7	3
Korea	24	8.8	4
Poland	20	7.4	5
Turkey	20	7.4	6
Malaysia	18	6.6	7
Thailand	18	6.6	8
Pakistan	11	4.1	9
Argentina	10	3.7	10
USA	10	3.7	11
Italy	9	3.3	12
Greece	9	3.3	13
France	7	2.6	14
Germany	7	2.6	15

Table 5 Area wise contribution from India

This table shows that regarding the area wise contribution in India, New Delhi gets the first place with a highest contribution of 233.

Name of the Place	Number of contributions	%	Rank
New Delhi	233	20.3	1
Kolkata	105	9.1	2
Izat Nagar	93	8.1	3
Lucknow	88	7.7	4
Chennai	69	6	5
Mumbai	64	5.6	6
Varanasi	61	5.3	7
Trivandrum	61	5.3	8
Pune	56	4.9	9
Bangalore	51	4.4	10
Midnapore	44	3.8	11
Trichy	42	3.7	12
Chandigarh	30	2.6	13
Hyderabad	25	2.2	14
Madurai	25	2.2	15
Palampur	24	2.1	16
Ludhiana	21	1.8	17
Allahabad	20	1.7	18
Santhiniketan	20	1.7	19
Manipal	16	1.4	20

Conclusion

The range of articles published per volume during the period under study is between 101 and 142. The study has examined a total of 478 articles that has been published for the period of four years (2013 – 2016). The quality of the contribution peer reviewed and quality of the selected articles published in the Indian Journal of Experimental Biology.

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