

Palaeontology Literature Studies in Historical Biology Journal - A Scientometric Analysis

K. Palanivel¹ and Dr.C.Baskaran²

¹Librarian and Information Assistant Grade II, Anna Centenary Library, Chennai

²Librarian, Alagappa University, Karaikudi

Abstract

A scientometric study of Palaeontology Literature Studies in Historical Biology Journal is carried out to find out the growth of Palaeontology literature output. There are of 2581 articles during 1999 to April'2013 published from Scopus database during period of 1999 to April 2013 for the subject of Violence against women productivity.

KEY WORDS: Metrics, Scientometrics, Plaeontology, Historical Biology.

1. INTRODUCTION

This paper attempts to discuss the framed objectives of the present study, Palaeontology literature. Paleontology, also spelled palaeontology, scientific study of life of the geologic past that involves the analysis of plant and animal fossils, including those of microscopic size, preserved in rocks. It is concerned with all aspects of the biology of ancient life forms: their shape and structure, evolutionary patterns, taxonomic relationships with each other and with modern living species, geographic distribution, and interrelationships with the environment. Paleontology is mutually interdependent with stratigraphy and historical geology because fossils constitute a major means by which sedimentary strata are identified and correlated with one another. Its methods of investigation include that of biometry (statistical analysis applied to biology), which is designed to provide a description of the forms of organisms statistically and the expression of taxonomic relationships quantitatively. At least one in five of the world's female population has been physically or sexually abused by a man or men at some time in their life. It also explain methodological description, method of data collection, description about the relevance statistical tools and applications for evaluating of the study. In 1960, Scientometrics used to denote 'measurement information process'. The term informatics was widely used to mean "documentation/information handling activities" Derek John de Solla Price was credited as the father of scientometrics.

The term scientometrics originated as Russian term for the application of quantitative methods to study the quantitative aspects of science. It is used for a system of knowledge.

2. REVIEW OF RELATED LITERATURE

Stephenson (1985) has investigated the relationship of the research method used and the growth of published literature in field geochemistry and vertebrate paleontology. Using a non-experimental design, an evaluative instrument was developed for assigning a quantitative score to published research based on the research method utilized. A Kendal tau c coefficient values were obtained and the hypothesis that a significant correlation exists between the presence of selected research method criteria in the published literature of a branch and the growth rate of the published literature of that branch is found to be supported.

Jonathan P. Tennant and Dean R. Lomax(2019)The majority of journals have self-archiving policies that allow the authors to share their peer reviewed work via ‘green OA’ without charge. There is a clear relationship between the ‘journal impact’ and higher charges levied for OA. The most expensive journals are typically published by the large, commercial, publishing houses, rather than the paleontology community themselves. However, there are a number of article processing charge (APC)-free (diamond) OA journals that can also be considered to be of moderate impact. Until the paleontology community makes the decision to move away from journal-based evaluation criteria (e.g., the impact factor), it is likely that such high costs will continue to impose financial inequities upon the research community. However, until such culture change occurs, paleontologists could more widely embrace legal self-archiving as an equitable and sustainable way to progress communication of their research.

3. METHODOLOGY

The present study efforts to analyze the research output Palaeontology Literature. It aims to identify the distribution of research output on the basis of research papers contributed by Scientists from various place in and around the world. The study probes to examine the growth rate during the study period.

A sample of 2581 articles during 1999 to April’2013 published from Scopus database during period of 1999 to April 2013 for the subject of Palaeontology Literature.

4. OBJECTIVES

The major objectives of the present study, covering the contributions of world performing Science community research for the period of 15 years (1999 – April 2013) are:

- To measure the productivity and publication share of contributing countries' scientists in the world with growth rate.
- to examine the authorship patterns and the nature of collaborative research,
- to identify the prolific contributors and measuring their productivity (quantity of contributions),
- to examine the authorship pattern and prolific contributors and number of article with their citation scores

5. Data Analysis and Interpretation

Table 1: Year wise distribution of Palaeontology publications

S.No	Publication Year	Records	Percentage
1	1999	71	2.8
2	2000	108	4.2
3	2001	107	4.1
4	2002	131	5.1
5	2003	138	5.3
6	2004	133	5.2
7	2005	164	6.4
8	2006	170	6.6
9	2007	170	6.6
10	2008	242	9.4
11	2009	237	9.2
12	2010	264	10.2
13	2011	291	11.3
14	2012	298	11.5
15	2013	57	2.2
	Total	2581	100

Table 1 shows that in its whole of the published items with 'Palaeontology Literature' in the address field. It discloses that during the period of 15 years span.

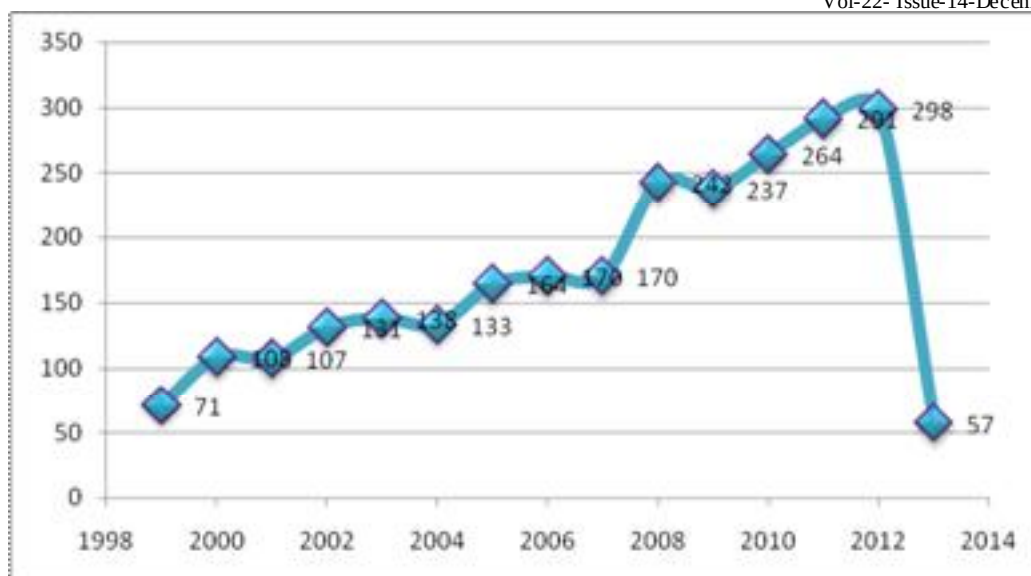


Figure 1: Year wise distribution of Palaeontology Literature research

Table 2: Distribution of records of authors

No. of authors	No. of contributions	Total authorship	Cumulative authorship
1	22	22	22
1	22	22	44
1	20	20	64
1	18	18	82
3	17	51	133
2	16	32	165
1	15	15	180
4	13	52	232
2	12	24	256
2	11	22	278
5202	221	6927	

The above table 2 has reveals that the first 10 most productive authors according to their highest contribution of this selected research output. Totally 5202 authors were contributed 6927 times related to this area research.

Table 3: Top 10 Ranking of Authors Based on their highest Publication

S. No	Author	Records	Rank
1	Carlos A. Góis-Marques	22	1
2	Lea de Nascimento	22	1
3	Miguel Menezes de Sequeira	20	2
4	José María Fernández-Palacios	18	3
5	José Madeira	17	4
6	Jewkes R	17	4
7	Phillip C. Sternes	17	4
8	Haj-Yahia MM	16	5
9	Kenshu Shimada	16	5
10	Watts C	15	6

Table 3 indicates that the ranking of authors by their number of publications in the subject of Palaeontology Literature. Authors “Carlos A. Góis-Marques” and “Lea de Nascimento” have published highest number of articles for the study period with each 22 records.

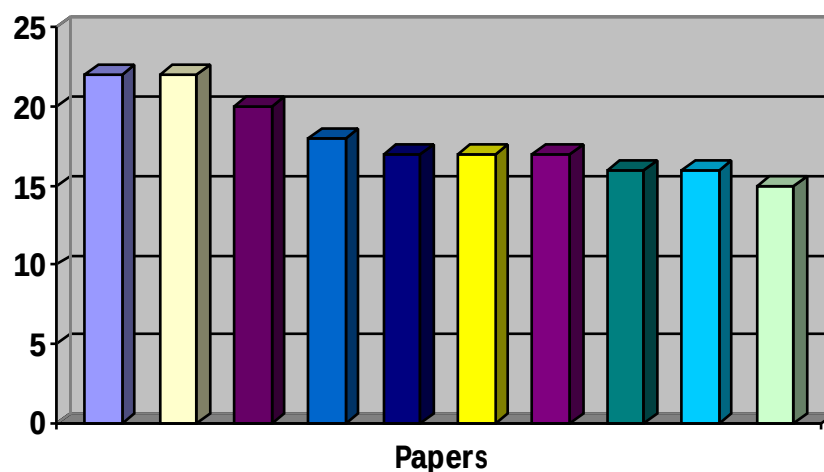


Figure 2: Most productive authors' global citation scores

Authorship Pattern Analysis

The analysis found that 5202 authors have contributed 6927 articles during the period 1999 to 2013.

The per capita authorship is, = Total number of Articles

Total number of Authors

$$= 6927/5202$$

$$= 1.33$$

The per capita publication works out of 1.33 that is the average number of authors for a article

Document Wise Distribution of Publications

The study reveals that the major source (ten types) of publications covered by Scopus on Palaeontology Literature research in journal articles 2039 (79%), while review comprises 122 (4.7%) and conference proceedings with 120 (4.6%), Editorial material 95 (3.7%), Review 85 (3.3%), Meeting Abstract 83 (3.2%) of the remaining literature.

Table 4: Document wise Distribution of Publications

S.No	Document Type	Recs	%
1	Article	2039	79.0
2	Book Review	122	4.7
3	Article; Proceedings Paper	120	4.6
4	Editorial Material	95	3.7
5	Review	85	3.3
6	Meeting Abstract	83	3.2
7	Letter	14	0.5
8	News Item	6	0.2
9	Article; Book Chapter	5	0.2
10	Correction	4	0.2

Table 5: Distribution of Subjects in Palaeontology Literature (Top 10)

S.No	Journal Name	Recs.	%	No. of Authors	CI
1	Archaeology	196	7.6	450	282
2	Ancient Climates	139	5.4	393	261
3	Radiometric	71	2.8	203	167
4	Biostratigraphy	45	1.7	170	128
5	Linnaean taxonomy	36	1.4	93	38
6	DNA	36	1.4	52	10
7	Genomes	28	1.1	111	85
8	Molecular clock	27	1.0	113	100
9	Reproductive	27	1.0	59	8
10	Psychology	23	0.9	53	13
	Total Subjects 323	1137	Cont...	3056	1837

The journal “Palaeontology Literature” topped with 323 Subjects with the Global Citation Score of 282 and h-index 31, next “Ancient Climates” 139 publications with the Global

Citation Score of 261 and h-index 27, “Radiometric” 71, publications with the Global Citation Score of 167 and h-index 17.

Country Wise Distribution

Table 6 indicates that the country wise number of publications. Totally 96 countries were produced the selected area research productivity. Highest number of Records has published in USA 973 (37.7%) research papers at the same time it ranks first in terms of Global Citation Scores 11552, followed by Canada published 209 (8.1%) research papers at the same time it rank second in terms of Global Citation Score 1795, UK published 195 (7.6%) research papers at the same time it rank third in terms of Global Citation Score 2178 and Brazil 113 research papers related this subject productivity.

Table 6: Country wise Distribution of Publication (Top 11)

S.No	Country	Recs	%	TGCS
1	USA	973	37.7	11552
2	Unknown	407	15.8	2373
3	Canada	209	8.1	1795
4	UK	195	7.6	2178
5	Brazil	113	4.4	535
6	Spain	96	3.7	426
7	Australia	92	3.6	405
8	Sweden	90	3.5	879
9	South Africa	64	2.5	1137
10	Mexico	52	2.0	296
11	India	51	2.0	331

The countries of Spain, Australia, Sweden, South Africa, Mexico and India were contributing more than 50 articles. Remaining countries were having less contribution of Palaeontology Literature.

7. Language wise Distribution

Table 7 indicates that the language wise number of publications. Highest number of records has published in English (89.8%) at the same time it ranks first in terms of Global Citation Scores 21814, followed by Spanish (3.8%), Portuguese (2.5%) and French (1.7%) remaining language were having less contribution of Palaeontology Literature research.

Table 7: Language wise Distribution of Publication

S.No	Language	Recs	%	TGCS
1	English	2319	89.8	21814
2	Spanish	97	3.8	202
3	Portuguese	65	2.5	242
4	French	43	1.7	33
5	German	34	1.3	33
6	Croatian	5	0.2	1
7	Swedish	4	0.2	0
8	Dutch	3	0.1	0
9	Italian	3	0.1	0
10	Turkish	3	0.1	0

It could be noted that from the above analysis, the English language is having the highest contribution among the other ten languages, because this language is commonly acceptable language at global level scientists.

COLLABORATIVE INDEX

Collaborative Index can be obtained by the total number of authors divided by the total number of published articles. Collaborative index = total number of authors / total number of articles, where, CI = the number of authors per paper.

Table 8: Single Vs. multi-author and Degree of Collaboration of Palaeontology Literature research output

Year	Single authors		Multi authored		Total	Degrees of Collaboration
	No of output	%	No. of output	%		
1999	41	4.25	101	1.69	142	0.71
2000	56	5.80	174	2.92	230	0.76
2001	47	4.87	207	3.47	254	0.81
2002	60	6.22	231	3.87	291	0.79
2003	58	6.01	256	4.29	314	0.82
2004	55	5.70	304	5.10	359	0.85
2005	61	6.32	337	5.65	398	0.85
2006	77	7.98	354	5.94	431	0.82
2007	61	6.32	397	6.66	458	0.87
2008	77	7.98	560	9.39	637	0.88
2009	83	8.60	615	10.32	698	0.88

2010	81	8.39	669	11.22	750	0.89
2011	94	9.74	779	13.07	873	0.89
2012	97	10.05	803	13.47	900	0.89
2013	17	1.76	175	2.94	192	0.91
Total	965	13.93	5962	86.07	6927	0.86

In recent years, scientists/researchers target for communal participation in research problem solving activities. It has resulted in the falling down of single author papers and thereby an increase in multiple author papers.

CONCLUSION

From this analysis the researcher have found the following remarks:

1. During 2011 and 2012 have highest contribution
2. It is identified the authors of “Carlos A. Góis-Marques” and “Lea de Nascimento” are most productivity authors.
3. The journal format has contributed leading position for its highest production of research in Palaeontology Literature.
4. The journal of “**Palaeontology Literature**” has produced more articles.
5. USA, Canada, UK and Brazil have produced more than 50 percent of articles in subject.

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