

Scientometric Analysis of Koto-Te-Nyiwa Ngbolua's Contributions in the Field of Ethnomedicine

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ABSTRACT

We scientometrically examined Dr. Koto-Te-Nyiwa Ngbolua's research output from his appointment as junior lecturer at the University of Kinshasa until May 2024, the date of data collection. The following points were evaluated: (1) Dr. Ngbolua's output; (2) Dr. Ngbolua's status as first author, co-author, or corresponding author; (3) his collaboration patterns with other researchers within or outside his institution. The documents search strategy involved searching the Web of Science (WoS), Scopus, Google Scholar, ResearchGate, PubMed, and NHIS for terms related to Ngbolua. The data were evaluated using R and VOSviewer. Dr. Ngbolua has written 133 articles on medicinal plants and has cooperated with 237 researchers from around the world.

Keywords: Scientometrics, Bio-bibliometrics, Ethnomedical Plants, Ethno-medicine, Democratic Republic of Congo.

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Received: 18-12-2025;

Revised: 09-02-2026;

Accepted: 22-04-2026.

INTRODUCTION

In any field, research is crucial to producing new knowledge (Patel *et al.*, 2023). Furthermore, the publication of articles is the primary means by which scientific research is communicated (Fox *et al.*, 2018). There are scientists in these disciplines who excel in their expertise and contribute to the advancement of the respective field. Unfortunately, it is observed that the scientists' achievements are usually either mentioned in an obituary after their death or presented upon their retirement (Haq, 2021). Therefore, such reflections would not only be a sign of respect and recognition for the scientist's intellectual achievement to objectively evaluate and highlight their lifetime achievements while they are still alive or not yet retired (Haq *et al.*, 2023), but it would encourage young researchers to go far. The research output and lifetime achievements of scientists across various fields have been extensively studied (Hussain, 2020; Karpenko, 2023; Koley, 2023; Koley & Sen, 2006). However, to date, no research has been conducted on specific Congolese scientists. Therefore, this study conducts a scientometric analysis of Dr. Koto-Te-Nyiwa Ngbolua's publications output in ethnomedicine. The scientometric analysis covers both qualitative and quantitative analysis of scientific contributions that can include individual authors, departments,

universities, cities, and countries (Abolghassemi & Jouyban, 2011; Rusaati *et al.*, 2021).

Dr. Ngbolua, is a twin who was born in 1972 in the village of Abumombazi (North-Ubangi Province). He first attended elementary school at Molende Primary school (Abumombazi), and then emigrated to the capital Kinshasa, where he graduated from Athénée Saint Jean (Institut de Lingwala (Kinshasa)) and obtained his bachelor's degree in Biology from University of Kinshasa in 2004. In 2012, he obtained his PhD from University of Kinshasa in collaboration with Malagasy Institute for Applied Research (IMRA, Madagascar). The topic of his PhD thesis was "Evaluation de l'activité anti-drépanocytaire et antipaludique de quelques taxons végétaux de la R.D. Congo et de Madagascar" (Evaluation of the anti-sickle and anti-malarial activity of some plant taxa from the DR Congo and Madagascar). His professional career began in 2004 as Junior Lecturer (Assistant) at the department of Biology, of the University of Kinshasa. In 2010 he was promoted to Senior Lecturer (Chef des travaux), and shortly after completing his doctoral studies in 2012 to Assistant Professor. He then became Associate professor in 2018, and has been a full professor at the same institution since 2022. His field of research includes: Medicinal plants and traditional medicine Afro-Malgache; Ethnopharmacology; Biodiversity, Bioprospection, Conservation and sustainable development; Biochemistry of pathogenic organisms; Malaria, sickle cell disease, diabetes and cancer; Radiobiology and cellular radiology. Throughout his 20 years of career, He has published more than 500 peer-reviewed articles in his research fields. He co-supervised a master's thesis (2016) and supervised a PhD thesis (2021). He is a member of the editorial board of several international scientific



DOI: 10.5530/jcitation.20260227

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journals, and editor in-Chief of the Revue Congolaise des sciences et technologies.

ADScientific provides author, university, and country rankings. According to the last update of June 28, 2025, ADScientific (<https://www.adscientificindex.com>) covers 2,626,162 scientists and 24,486 institutions in 221 countries, covering 220 disciplines in 13 major academic fields. Only 442 Congolese scientists from Congolese institutions are included among the 190,844 scientists from African institutions. With an H-index of 42, Ngbolua ranks second in the Democratic Republic of the Congo and second at the university level, out of 131,460 positions worldwide (Figure 1).

The aim of this article is to analyze the evolution of the publications of Professor Dr. Ngbolua Kote-Te-Nyiwa, a well-known scientist in the field of ethnomedicinal plants. The following points are analyzed: (1) the Dr. Ngbolua's productivity, (2) the position of Dr. Ngbolua as first author, co-author or corresponding author; (3) the author's collaboration with other researchers inside or outside his institution.

METHODS

Using Web of Science (WoS), Scopus, Google Scholar, ResearchGate, PubMed and NHIS, an extensive collection of Dr. Ngbolua papers was compiled in May 2024. These included peer-reviewed articles, book chapters and papers published at conferences. The selection criteria were all studies that dealt with any type of medicinal plant analysis: ethnomedicinal investigation, biological and chemical screening of medicinal plants, *in vitro* and/or *in vivo* studies of medicinal plants (Figure 2). The data were collected using MS Excel, and the figures were created using R software and VOSviewer.

RESULTS AND DISCUSSION

Annual distribution and authorship patterns

Since his debut as a Junior Lecturer in 2004 until the time of compilation in May 2024 (20 years), Dr. Ngbolua has written 133 papers on medicinal plants. In 2020, there were 21 publications, making it the year with the highest number of publications. Approximately 54% of his papers were published between 2020 and 2023 (Figure 3). The annual average of publications is 6.65 publications. Haq, (2019) analyzed lifetime achievements of Prof Kanwal Ameen, and found he published 137 research items in information management in 27 years, that is an average of 5.07 publications per year. Qayyum & Naseer, (2013) analyzed the contributions of Dr. Khalid Mahmoods to LIS in Pakistan over his 18 years of service (1993-2011), and found that he has published 115 items, that is an average of 6.4 publications per year. Joan C. Durrance published 165 items from 1977 to 2011. That is an average of 4.9 items per year (Banerjee & Chakrabarti, 2021).

In comparison to the aforementioned research findings, we established that Ngbolua's annual publication average exceeds that of other authors. This is supported by the extensive collaboration Ngbolua has established with researchers across various institutions and countries. This assumption was corroborated by different studies indicating that collaboration networks enhance the researcher productivity (Isfandyari *et al.*, 2023; Mati *et al.*, 2022; Razzaq *et al.*, 2022). The position of the author in the byline of an article can be used to assess researchers' scientific contributions (Chinchilla *et al.*, 2024). The comprehensive review of his authorship during this period, revealed that Ngbolua was listed as first author in 18.8% of the publications. He was second author in 15 % of the publications, and as third author in 9% of the publications.

Corresponding authors play dual roles as the official liaison and lead author of a research article (Wencan *et al.*, 2023). Corresponding authors are assumed to be Senior Researchers or group leaders who have experience in submitting and publishing scientific research (Chinchilla *et al.*, 2024). Ngbolua is identified as a corresponding author in 39 % of the publications (Table 1).

Collaborative researcher, Lotka's law, institutions and country collaborations

The evolution of scientific research from a predominantly individual author to a largely collective author is one of the most significant changes that has taken place in recent decades (Iglič *et al.*, 2017; Laudel, 2001). According to Turner and Mairesse, (2004), collaboration can come from the same or different institutions, or from different countries. Acquisition of tacit knowledge, building human capital in science and technology, and access to resources or expertise are common reasons for collaboration (Hu *et al.*, 2014). In addition, these partnerships, especially the international partnerships, help to increase the impact and recognition of the science produced (Moya *et al.*, 2018; Grácio *et al.*, 2020).

Ngbolua collaborates with 287 researchers. These authors appear 1182 times in the 133 articles. Of these research collaborations, Mpiana P.T accounts for 111 (82.8%) articles, followed by Tshibangu D.S.T. 74 (55%) articles, Tshilanda D.D. 53 (39.5%) articles, Masengo C.A. 39 (29%) articles and Bongo N.G 35 (26%) articles. The first three leading co-authors are his fellow Professors in the same institution but in different departments, while the other two are his successfully trained students. 185 authors collaborated only once, 38 twice, and 18 authors appear 3 times (Figure 4). The level of collaboration was 1, meaning that there were no contributions from individual authors during the study period.

There were 64 institutions associated with the co-authors of these 133 papers, which occurred 1251 times (Figure 5). The University of Kinshasa (UNIKIN) is mentioned 906 times, followed by the University of Gbado-Lite (69 times), the University of Antananarivo (32 times) and the Malagasy Institute of Applied

Research (19 times). Most of the foreign institutions with which Prof. Ngbolua has collaborated are from Madagascar, Angola, France, India, and other countries (Figure 6).

According to Lotka's Law, that stipulates

"The proportion of all contributors who contribute a single item should be just over 60 percent. Those who made 2 contribution is about one-fourth of those making one; those making 3 contribution is about one-ninth; and the number making n contribution is about $1/n^2$ of those making one" (Lotka, 1926).

The Lotka's distribution function is expressed as: $f(x) = C/x^n$ (Eq.1), where x is the number of papers published in that period; $f(x)$ is the number of authors publishing x papers, n is an exponent that is constant for a given set of data; and C is a constant. $C > 0$, $n > 1$. The value of n and c can be calculated by the testing procedure suggested by Pao, (1986):

$$n = \frac{N \sum xy - \sum x \cdot \sum y}{N \sum x^2 - (\sum x)^2} \quad (\text{Eq.2})$$

Where N = number of observations considered; X = logarithm of x (x = number of contributions); and Y = logarithm of y (y = number of authors).

The value of n can be determined as follow using data in Table 2:

$$n = \frac{11(5.10226) - (7.601156)(9.799916)}{11(6.299658) - (7.601156)^2} = \frac{56.12486 - 74.49069}{69.29624 - 57.77757} = \frac{-7.77757 - e}{11.51867} = -1.594$$

$$\text{The } C \text{ constant is calculated as: } C = \frac{1}{\sum_{i=1}^p \left(\frac{1}{x_i^n} \right) + \frac{1}{(n-1)(p^{n-1})} + \frac{1}{(2p)^n} + \frac{n}{24[(p-1)]^{n+1}}} \quad (\text{Eq.3})$$

Where x = number of publications (1, 2, 3, 4, 5, ...), p = total set = 11, $n = 1.594$ (absolute value).

Then:

$$\begin{aligned} \sum_{i=1}^p \left(\frac{1}{x_i^n} \right) &= \left(\frac{1}{1^{1.594}} \right) + \left(\frac{1}{2^{1.594}} \right) + \left(\frac{1}{3^{1.594}} \right) + \left(\frac{1}{4^{1.594}} \right) + \left(\frac{1}{5^{1.594}} \right) + \left(\frac{1}{6^{1.594}} \right) + \\ &\quad \left(\frac{1}{7^{1.594}} \right) + \left(\frac{1}{8^{1.594}} \right) + \left(\frac{1}{9^{1.594}} \right) + \left(\frac{1}{10^{1.594}} \right) + \\ &= \left(\frac{1}{1.0} \right) + \left(\frac{1}{3.019} \right) + \left(\frac{1}{5.761} \right) + \left(\frac{1}{9.113} \right) + \left(\frac{1}{13.006} \right) + \left(\frac{1}{17.393} \right) + \left(\frac{1}{22.237} \right) + \left(\frac{1}{27.512} \right) + \\ &\quad \left(\frac{1}{33.194} \right) + \left(\frac{1}{39.264} \right) \\ &= 1.0 + 0.331 + 0.173 + 0.109 + 0.077 + 0.057 + 0.045 + 0.036 + 0.030 \\ &\quad + 0.024 = 1.882 \\ C &= \frac{1}{1.882 + \frac{1}{(1.594-1)(11^{1.594-1})} + \frac{1}{2(11^{1.594})} + \frac{1.594}{24(11-1)^{1.594+1}}} \\ &= \frac{1}{1.882 + \frac{1}{(0.594)(11^{0.594})} + \frac{1}{2 \cdot 11^{1.594}} + \frac{1.594}{24 \cdot 24^{2.594}}} \\ &= \frac{1}{1.882 + \frac{1}{(0.594)(4.155)} + \frac{1}{2 \cdot 45.706} + \frac{1.594}{24 \cdot 392.645}} \\ &= \frac{1}{1.882 + \frac{1}{2.468} + \frac{1}{91.412} + \frac{1.594}{9423.48}} = \frac{1}{1.882 + 0.405 + 0.011 + 0.000} = \frac{1}{2.298} = 0.435 \end{aligned}$$

The calculated value of constant C in our data is $C = 0.435$ (i.e., 43.5%), indicating that the proportion of authors who published a single article is over 43 percent. The calculated value of the constant C is lower than the value of C suggested by Lotka.

As suggested by (Pao, 1986), the Kolmogorov-Smirnov ($K-S$) goodness-of-fit test was applied to assess the applicability of Lotka's law and the degree of agreement of the observed data with the theoretical distribution of author productivity (Table 3). The point at which the greatest deviation is observed in both the theoretical and the observed distribution is determined.

The critical value at the .05 level was calculated by $V = 1.36/\sqrt{\sum y}$. $\sum y$ is the total population under consideration.

The obtained critical value is C . $V = 0.08$ and the maximum difference ($D_{\max}$) between the observed and the expected frequency is $D_{\max} = |0.2096|$ (Table 3). It is clear that the $D_{\max}$

Table 1: Status of Ngbolua in the byline of authors.

Publications	position in the byline																	Total
	Corresponding Author	1 st	2 nd	3 rd	4 th	5 th	6 th	7 th	8 th	9 th	10 th	11 th	12 th	13 th	14 th	15 th	16 th	
Three-authored			1															1
Four-authored					2													2
Five-authored	1		1	1	2	1												5
Six-authored	6	5		2			3											10
Seven-authored	12	6	4	2	5	3	3	4										27
Eight-authored	5	4	1	2	1	2	3	2										15
Nine-authored	10	5	6	2	1	3	2	2	1	3								25
Ten-authored	11	4	5	1		1	3	1	1	3	3							22
Eleven-authored	2		1		1		1	1	2			1						7
Twelve-authored	4		2	2						1	1	2	1					9
Thirteen-authored	1	1								1	1		1					4
Fourteen-authored														1				1
Fifteen-authored														1	2			3
Sixteen- authored																2		2
Total	52	25	21	12	12	10	15	10	4	8	5	3	2	2	2	2	0	133

Table 2: Authors' productivity analysis.

No. of contributions (x)	No. of authors (y)	X=Log x	Y=Log y	XY	X ²
1	185	0	2.267172	0	0
2	37	0.30103	1.568202	0.472076	0.090619
3	18	0.477121	1.255273	0.598917	0.227645
4	10	0.60206	1	0.60206	0.362476
5	4	0.69897	0.60206	0.420822	0.488559
6	2	0.778151	0.30103	0.234247	0.605519
7	1	0.845098	0	0	0.714191
8	4	0.90309	0.60206	0.543714	0.815572
9	4	0.954243	0.60206	0.574511	0.910579
10	2	1	0.30103	0.30103	1
11	20	1.041393	1.30103	1.354883	1.084499
Sum total	287	7.601156	9.799916	5.10226	6.299658

Table 3: Observed and expected distributions of authors.

Number of contributions	Number of authors	Observed value		Expected value		Deviation
		Frequency	cum. Fo	Frequency	cum. Fe	$D_{max} = Fe - Fo $
x	y _x	(y _x /Σy _x)		(C/x ⁿ)		
1	185	0.6446	0.6446	0.435	0.435	-0.2096
2	37	0.1289	0.7735	0.1451	0.5801	-0.1934
3	18	0.0627	0.8362	0.0763	0.6564	-0.1798
4	10	0.0348	0.8711	0.0484	0.7048	-0.1662
5	4	0.0139	0.8850	0.0340	0.7388	-0.1462
6	2	0.0070	0.8920	0.0255	0.7643	-0.1277
7	1	0.0035	0.8955	0.0199	0.7842	-0.1112
8	4	0.0139	0.9094	0.0161	0.8004	-0.1090
9	4	0.0139	0.9233	0.0134	0.8138	-0.1096
10	2	0.0070	0.9303	0.0113	0.8251	-0.1052
11	20	0.0697	1.0000	0.0097	0.8349	-0.1651
Total	287					

value is greater than that critical value at a significance level of 5%. Therefore, the null hypothesis is rejected and it is concluded that the distribution frequency of authorship does not follow Lotka's generalized inverse square law. This was also found in several studies that examined Lotka's law. Contrast, Ahmad *et al.*, (2019) and Petek, (2008) found that the distribution frequency of authorship in artificial Intelligence publications and COBIB (Cooperative Bibliographic) data, respectively, followed Lotka's law.

Journal-wise distribution and Bradford's law

The 133 articles of Ngbolua have been published in 71 journals worldwide. The top ten journals published 45.8% of the total articles. The "Journal of Natural Products Research and Ethnopharmacology" ranked first with 9.7 % of publications,

followed by the "International Journal of Biological and Chemical Sciences" with 6 % (Appendix 1). 49 journals appeared once, while 10 journals appeared twice. 27 of the 71 journals were indexed in one of the 4 platforms: Scopus, Web of science (WoS), Directory of Open Access Journal (DOAJ), and African journal online (AJOL). Scopus 15 and DOAJ accounted for 15 journals, while WoS contained 8 journals and AJOL one journal (Table 4).

Bradford's law used to divide the journals into three zones of productivity, and the relationship between the zones forms an approximate geometric series in the form 1: n: n².

The present data show that 6 journals cover 33.08 % of the articles, the next 22 journals cover 34.59% of the articles and the last 43 journals cover 32.33 % of the articles (Table 5), i.e., the first zone (core zone) includes 6 journals, the second zone includes

Total 1 scientists, 0 country, 0 institution ☐ List without CERN, Statistical Data etc. ☐ Sort by last 6 years H Index

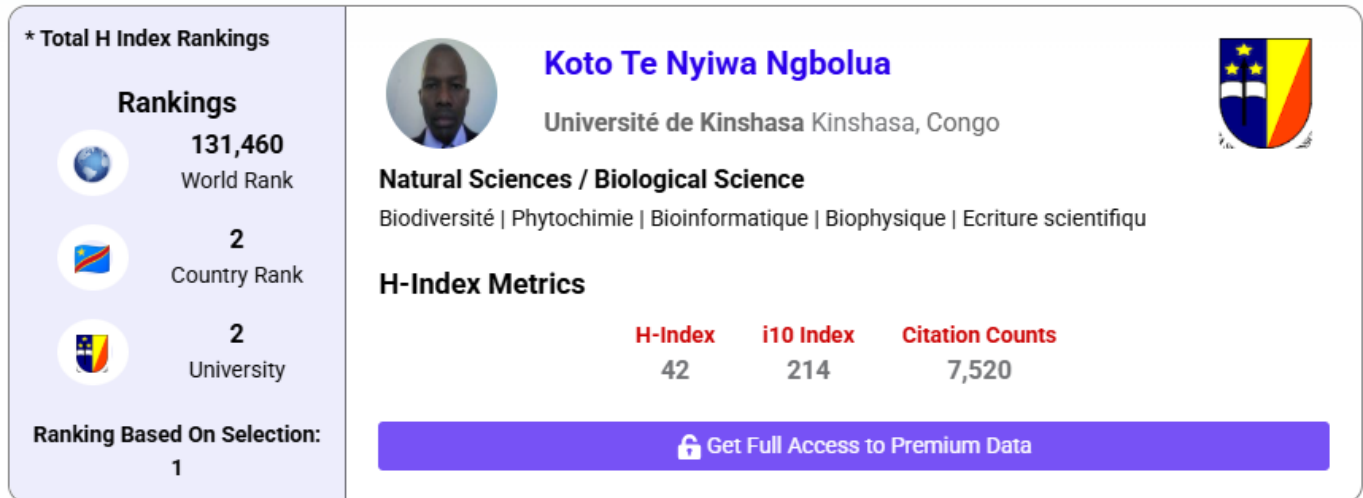


Figure 1: Ngbolua ranking by the AdScientificIndex.

Table 4: Classification of journals in different platforms.

Plat forms*	Journals
Web of Science (9)	Advances and Applications in Bioinformatics and Chemistry, Asian Pacific Journal of Tropical Biomedicine, Bois et Forêts des Tropiques, Chemical Physics Letters, Comptes Rendus Chimie, Current Traditional Medicine, Frontiers in Plant Science, Natural Products and Bioprospecting, Phytomedicine.
Scopus (15)	Advances and Applications in Bioinformatics and Chemistry, Asian Pacific Journal of Tropical Biomedicine, Bois et Forêts des Tropiques, Chemical Physics Letters, Comptes Rendus Chimie, Current Traditional Medicine, Ethnobotany Research and Applications, Frontiers in Plant Science, International Journal of Biological and Chemical Sciences, Journal of Ethnopharmacology, Natural Products and Bioprospecting, Phytomedicine, Natural Resources for Human Health, Phytotherapie, Proceedings of the National Academy of Sciences, India Section B: Biological Sciences.
DOAJ (15)	Advances and Applications in Bioinformatics and Chemistry, Annales Africaines de Médecine, Asian Pacific Journal of Tropical Biomedicine, Borneo Journal of Pharmacy, Comptes Rendus Chimie, Diyala Journal of Engineering Sciences, Diyala Journal of Engineering Sciences, Egyptian Academic Journal of Biological Sciences H Botany, Evidence-based Complementary and Alternative Medicine, Frontiers in Plant Science, Journal of Advanced Pharmacy Research, Journal of Applied Sciences and Nanotechnology, Journal of Fundamental and Applied Pharmaceutical Science, Science Journal of University of Zakho, Tropical Plant Research.
AJOL (1)	Revue Congolaise des Sciences and Technologies

*The classification was accessed on February 22, 2025.

Table 5: Scattering of Journals and articles over Bradford's zone.

zone	No. of Journals	% of Journals	No. of articles	% of articles	Bradford multiplier
1	6	8.45	44	33.08	
2	22	30.99	46	34.59	3.67
3	43	60.56	43	32.33	1.95
Total	71	100	133	100	2.81 (mean)

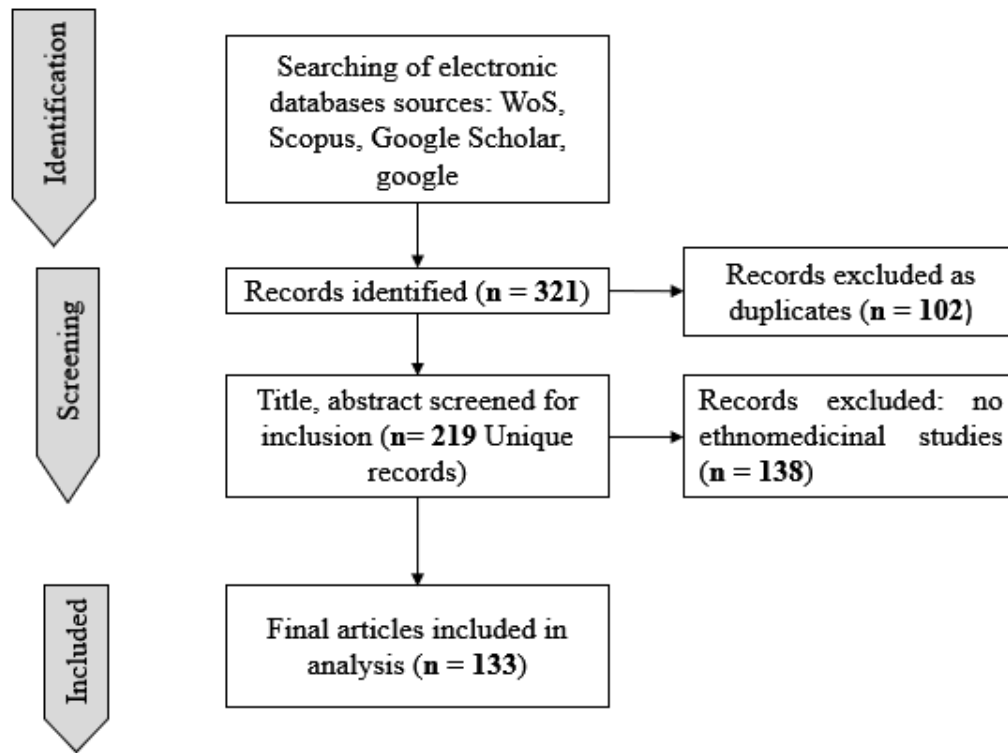


Figure 2: Flowchart steps for selection of publications.

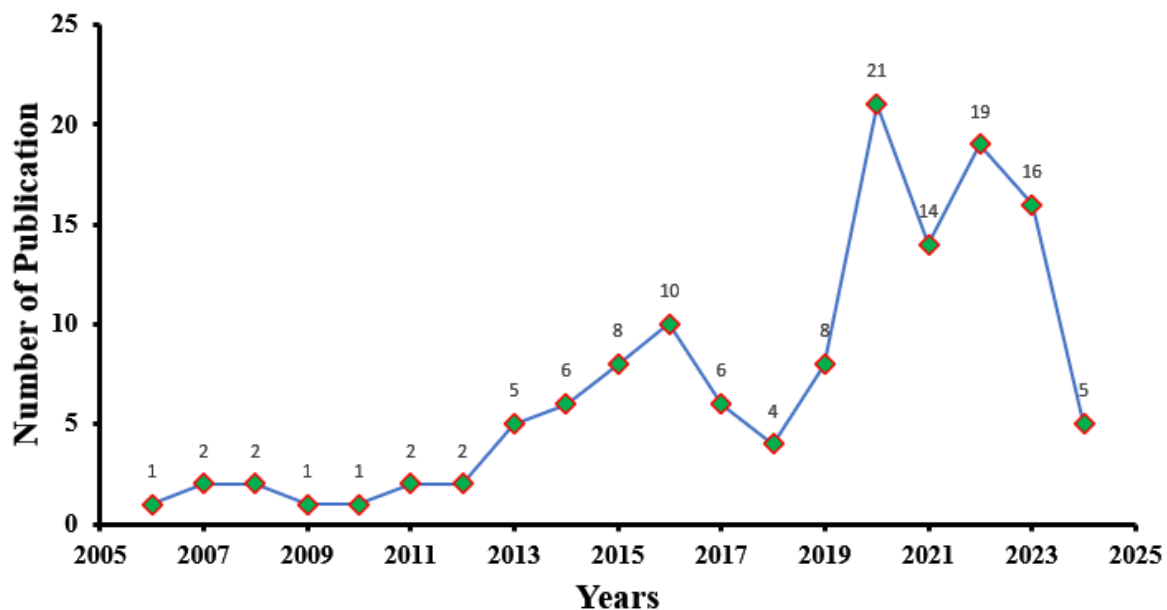


Figure 3: Chronological distribution of output of Ngbolua's publications.

22 journals, and the third zone includes 43 journals. In our data, the ratio of zones relationship in Bradford distribution is 6: 22: 43, where 6 stands for the number of journals in the core zone, and the value of the multiplier factor is $n=2.81$. This value was calculated by dividing the number of journals in a zone by the number of journals in the preceding zone and then calculating the mean value.

Therefore, $6: 6 \times 2.81: 6 \times (2.81)^2 :: 1: n: n^2$

6: 16. 86: 47.37

$$\text{The percentage error} = \frac{70.24 - 71}{71} \times 100 = -1.08 \%$$

Based on the percentage error, which is very small, it can be concluded that the present data confirm Bradford's law of scattering that: "Few journals published many articles, while many journals published few articles". The confirmation of Bradford's law has also been observed in numerous studies (Jena

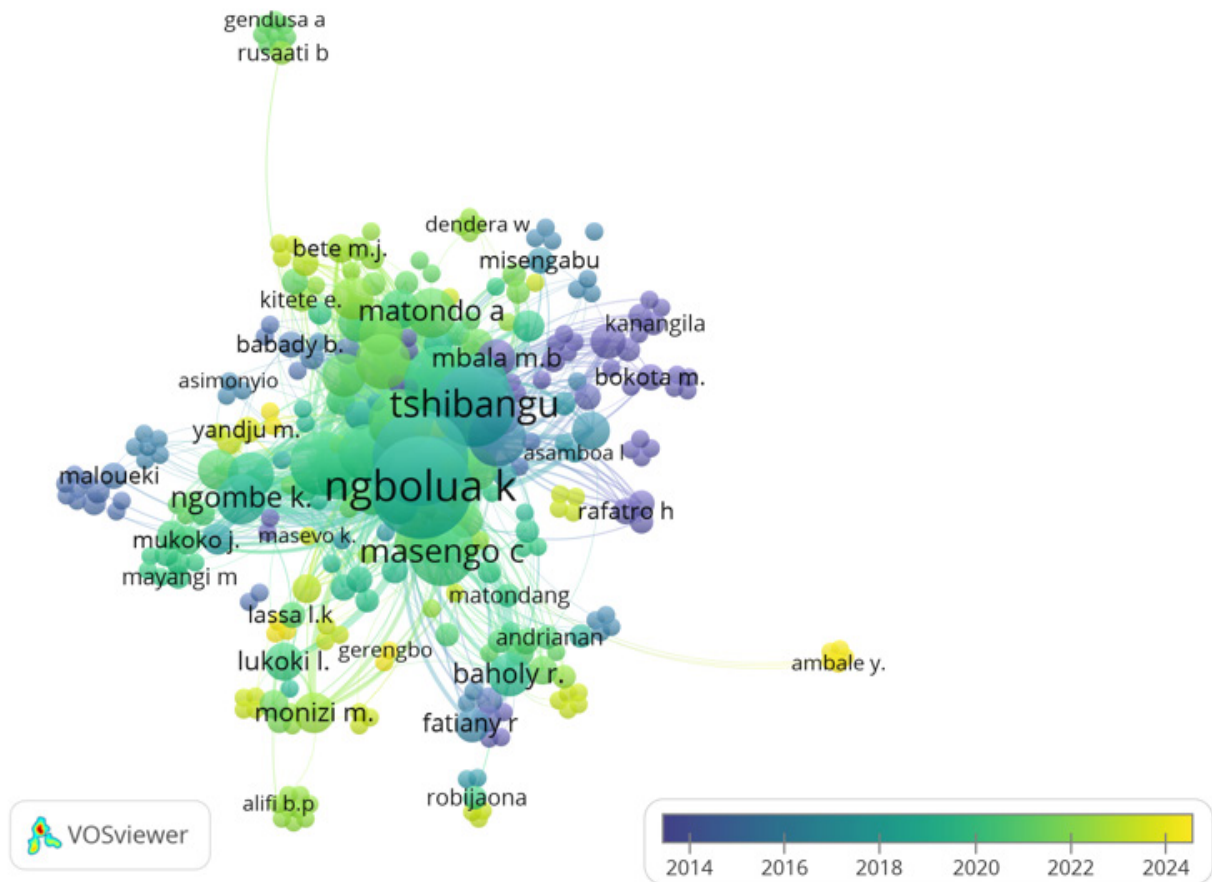


Figure 4: Authors co-occurrences network. (Circle represents an author, the size of each circle represents the number of papers by each author, and the color of the circle represents the timeline).

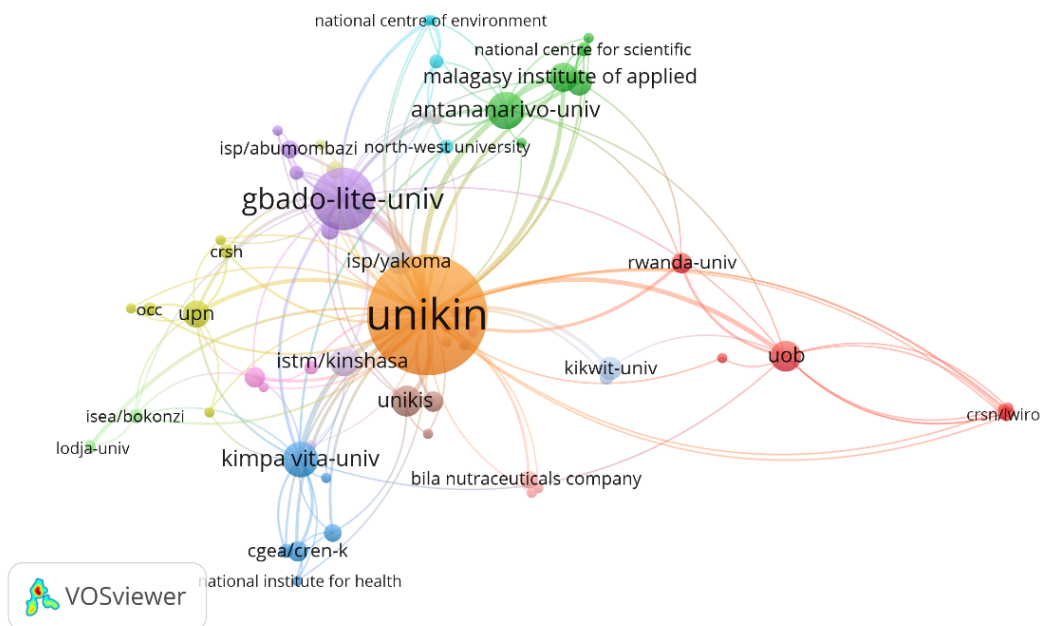


Figure 5: Institution-collaborations network. (Unikin=University of Kinshasa, Unikis=University of Kisangani, UOB=Universite Officielle de Bukavu, UPN=Université Pédagogique Nationale, ISP= Institut Supérieur Pédagogique, OCC= Office Congolais de Control, ISTM= Institut Sperieur de Technique Medical).

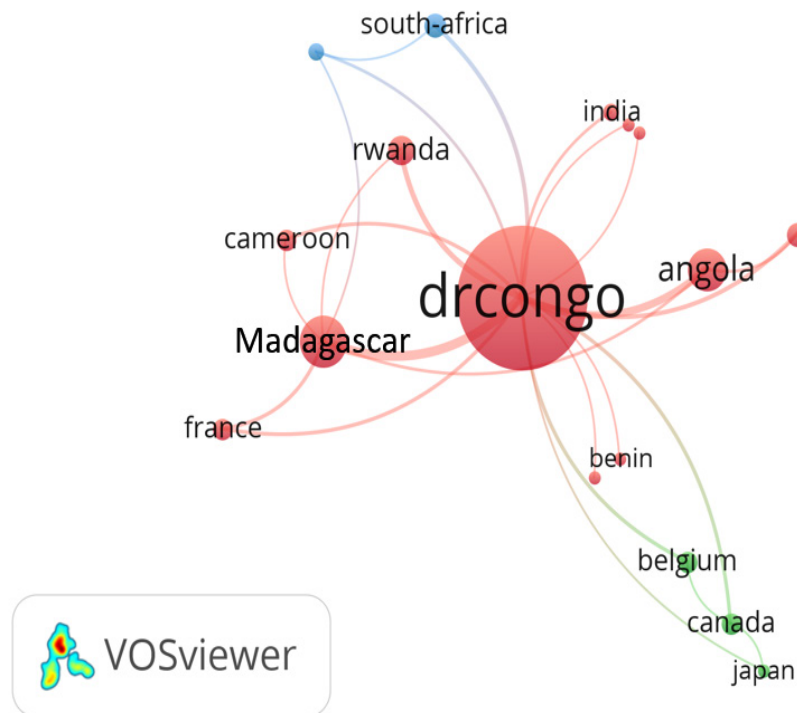


Figure 6: Country-collaborations network.

et al., 2012; Sembay *et al.*, 2020; Yumnam & Singh, 2024). On the other hand, the distribution pattern of journals in several studies did not confirm Bradford's distribution pattern, i.e. 1: n : n^2 (Hiremath *et al.*, 2016; Jayapriya & Esmail, 2025).

CONCLUSION

This study provided enough information on the achievements of Koto-Te-Nyiwa Ngbolua in the field of ethnomedicine and statistically analyzed his publications in that field. The increasing number of publications and the number of collaborations worldwide show Ngbolua's growing interest in engaging in scientific research and guiding young researchers in the field of ethnomedicine. This study can serve as a model for other topics, regardless of whether they are ethno-scientific in nature.

CONFLICT OF INTEREST

The author declares that there is no conflict of interest.

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Cite this article: Rusaati BI. Scientometric Analysis of Koto-Te-Nyiwa Ngbolua's Contributions in the Field of Ethnomedicine. *Journal of Data Science, Informetrics, and Citation Studies*. 2026;5(1):1-11.

APPENDIX

Appendix 1: Journals Preferred by KTN Ngbolua.

Journal Names	Rank	Freq	cumFreq	Zones
Discovery Phytomedicine - Journal of Natural Products Research and Ethnopharmacology	1	13	13	Zone 1
International Journal of Biological and Chemical Sciences	2	8	21	
Britain International of Exact Sciences (BIOEx) Journal	3	6	27	
Journal of Complementary and Alternative Medical Research	4	6	33	
Revue Congolaise des Sciences and Technologies	5	6	39	
Asian Pacific Journal of Tropical Biomedicine	6	5	44	
Natural Resources for Human Health	7	5	49	Zone 2
Annual Research and Review in Biology	8	4	53	
European Journal of Medicinal Plants	9	4	57	
International Journal of Pathogen Research	10	4	61	
Journal of Biosciences and Medicines	11	3	64	
Budapest International Research in Exact Sciences (BirEx Journal)	12	2	66	
emergent Life Sciences Research	13	2	68	
International Blood Research and Reviews	14	2	70	
International Journal of Biomedical Engineering and Clinical Science	15	2	72	
International Journal of Pharmacology	16	2	74	
Journal of Botanical Research	17	2	76	
Journal of Ethnopharmacology	18	2	78	
Sumerianz Journal of Biotechnology	19	2	80	
Tropical Plant Research	20	2	82	
Advance Research in Organic and Inorganic Chemistry (AROIC)	21	1	83	
Advances and Applications in Bioinformatics and Chemistry	22	1	84	
American Chemical Science Journal	23	1	85	
American Journal of Biomedical Science and Research	24	1	86	
Annales Africaines de Medecine	25	1	87	
Archives of Current Research International	26	1	88	
Archives Of Pharmacy Practice	27	1	89	
Asian Journal of Biology	28	1	90	

Asian Journal of Research in Biochemistry	29	1	91	Zone 3
Berkala Ilmu Kedokteran	30	1	92	
bioRxiv	31	1	93	
Blood transfusion	32	1	94	
Bois et Forets des Tropiques	33	1	95	
Borneo Journal of Pharmacy	34	1	96	
Bulletin of the National Research Centre	35	1	97	
Chemical Physics Letters	36	1	98	
Comptes Rendus Chimie	37	1	99	
Current Traditional Medicine	38	1	100	
Diyala Journal of Engineering Sciences	39	1	101	
Egyptian Academic Journal of Biological Sciences H Botany	40	1	102	
Ethnobotany Research and Applications	41	1	103	
European Journal of Agriculture and Food Sciences	42	1	104	
European Journal of Biology and Biotechnology	43	1	105	
European Journal of Nutrition and Food Safety	44	1	106	
Evidence-based Complementary and Alternative Medicine	45	1	107	
Frontiers in Plant Science	46	1	108	
Indonesian Journal of Fundamental and Applied Chemistry	47	1	109	
International Journal of Applied Research	48	1	110	
International Journal of Biochemistry Research and Review	49	1	111	
International Journal of Life Science Research Archive	50	1	112	
International Journal of Medical and Pharmaceutical Case Reports	51	1	113	
International Journal of Pharmacy and Chemistry	52	1	114	
Journal of Medical Sciences (Faisalabad)	53	1	115	
Journal of Advanced Pharmacy Research	54	1	116	
Journal of Advances in Medical and Pharmaceutical Sciences	55	1	117	
Journal of Agriculture and Ecology Research International	56	1	118	
Journal of Applied Sciences and Nanotechnology	57	1	119	
Journal of Fundamental and Applied Pharmaceutical Science	58	1	120	
Journal of Pharmaceutical Research International	59	1	121	
Natural Products and Bioprospecting	60	1	122	
Nova Journal of Medical and Biological Sciences	61	1	123	
Open Journal of Blood Diseases	62	1	124	
Pharmacologia	63	1	125	
Pharmacy and Pharmacology International Journal	64	1	126	
Phytomedicine	65	1	127	
Phytotherapie	66	1	128	
Proceedings of the National Academy of Sciences, India Section B: Biological Sciences	67	1	129	
Research Square	68	1	130	
Science Journal of University of Zakho	69	1	131	
Sumerianz Journal of Agriculture and Veterinary	70	1	132	
Trends Journal of Sciences Research	71	1	133	