



Check for updates

RESEARCH ARTICLE

Bibliographic analysis of *Clinacanthus nutans* papers in Scopus database (2000–2019)

[version 1; peer review: 2 not approved]

Yun Jin Kim , Linchao Qian, Muhammad Shahzad Aslam

School of Traditional Chinese Medicine, Xiamen University Malaysia, Jalan Sunsuria, Bandar Sunsuria, Sepang, 43900, Malaysia

V1 First published: 25 May 2021, 10:418
<https://doi.org/10.12688/f1000research.52946.1>
 Latest published: 25 May 2021, 10:418
<https://doi.org/10.12688/f1000research.52946.1>

Abstract

Background: There has been an increasing trend in *Clinacanthus nutans* research, an important medicinal herb of Malaysia and Thailand, well known as an anti-viral, anti-cancer, and insect bite treatment. This study examines the trend in *Clinacanthus nutans* research from 2000 to 2019 and compares the contribution of research on this topic from different institutions and authors.

Methods: Publications from the Scopus database were retrieved using keywords and identify top ten institutions/universities, list of prominent authors, top ten journals that published research, top five influential articles, top fifty cited papers, and global distribution of publications on *Clinacanthus nutans*. Microsoft Excel 2016, Wordcloud, SPSS version 26, and GunnMap 2 were used to analyse indicators. A total of 167 articles were identified from the Scopus database. All research publications were screened initially. Five articles (n=5) were removed due to the unavailability of the full-text version of the article. 162 articles were included in the final study.

Results: Universiti Putra Malaysia and the Journal of Ethnopharmacology published the highest number of articles on *Clinacanthus nutans*. Herpes, antioxidant, phenolic, flavonoids, cancer, antimicrobial were common keywords identified using a word cloud. Over the past 20 years, the literature on *Clinacanthus nutans* has continuously grown, with the rate increasing after 2012.

Conclusion: The prominent research on *Clinacanthus nutans* was based upon their identified and isolated bioactive constituents, and there is a need for more research on clinical trials.

Keywords

Clinacanthus nutans; Bibliographic analysis; Scopus

Open Peer Review

Approval Status

	1	2
version 1		
25 May 2021	view	view

1. **Aidi Ahmi** , Universiti Utara Malaysia, Sintok, Malaysia
2. **Samy A Azer** , King Saud University College of Medicine, Riyadh, Saudi Arabia

Any reports and responses or comments on the article can be found at the end of the article.

Corresponding author: Muhammad Shahzad Aslam (aslammuhammadshahzad@gmail.com)

Author roles: **Kim YJ:** Resources, Supervision, Validation, Writing – Original Draft Preparation, Writing – Review & Editing; **Qian L:** Resources, Supervision, Validation, Writing – Review & Editing; **Aslam MS:** Conceptualization, Data Curation, Formal Analysis, Funding Acquisition, Investigation, Methodology, Project Administration, Resources, Software, Supervision, Validation, Visualization, Writing – Original Draft Preparation, Writing – Review & Editing

Competing interests: No competing interests were disclosed.

Grant information: This work was supported by Research Management Center, Xiamen University Malaysia, grants number XMUMRF/2020-C6/ITCM/0005. The funding body had no role in the design and conduct of this study; collection, management, analysis and interpretation of the data; preparation, review or approval of the manuscript; or the decision to submit the manuscript for publication.

The funders had no role in study design, data collection and analysis, decision to publish, or preparation of the manuscript.

Copyright: © 2021 Kim YJ *et al.* This is an open access article distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

How to cite this article: Kim YJ, Qian L and Aslam MS. **Bibliographic analysis of *Clinacanthus nutans* papers in Scopus database (2000–2019) [version 1; peer review: 2 not approved]** F1000Research 2021, 10:418 <https://doi.org/10.12688/f1000research.52946.1>

First published: 25 May 2021, 10:418 <https://doi.org/10.12688/f1000research.52946.1>

Abbreviations

CRO: Clinical Research Organisations
 NKEA: National Key Economic Areas Research Grant Scheme
 FRGS: Fundamental Research Grant Scheme
 NRGS: Niche Research Grant Scheme
 RAGS: Research Acculturation Grant Scheme
 FRIM: Forest Research Institute of Malaysia
 MIS: Malaysian International Scholarship
 NSFC: National Natural Scientific Foundation of China
 NAFOSTED: Vietnam National Foundation for Science and Technology Development
 TCM: Traditional Chinese Medicine

Background

Medicinal plants are a source of natural, semi-synthetic, or synthetic analogues with pharmacological potential and development of new therapeutic leads.¹ Their potentially curative properties' chemical source is the secondary metabolites of medicinal plants.² Traditional Chinese medicine (TCM) remedies have been used in China for centuries and often remain “different” from present Western medicine (WM), as they are still now primarily herbal mixtures.³ There is an increasing trend in identifying and isolating bioactive compounds in the poly-mixture of TCM. For example, pericarpium citri reticulatae (Rutaceae), commonly called *chen pi* in Chinese, as a regulating *qi* drug, is most frequently used in several Chinese medicine prescriptions.⁴

Clinacanthus nutans (Burm. f) Lindau (Acanthaceae) is indigenous to Southeast Asia.⁵ It is commonly known as *Belalai Gajah* (Malay) and *Phaya Yo* (Thai). *Clinacanthus nutans* used in different therapies, such as for skin rashes, snake bites, lesions caused by herpes simplex virus, diabetic myelitis, and fever.⁶ It is a good source of many flavonoids and phenolics.⁷ Several *in vivo* and *in vitro* pharmacological activities have reported. The most promising activities consist of anti-inflammatory,⁸ antioxidant, anti-tumour,⁹ anti-viral¹⁰ and antibacterial¹¹ activities.

Bibliometric analyses have used previously to study the measures of quality and impact of research performed in pharmacovigilance,¹² bioactive chemical constituents,¹³ and health-related issues such as burns,¹⁴ pressure ulcer,¹⁵ mesothelioma,¹⁶ colorectal cancer.¹⁷ It has also used to understand the impact of an important research topic. For example, Nano-medicine is one of the emerging issues in the treatment of cancer, and a bibliometric analysis was performed to understand the global trends in this field.¹⁸ The selection of the current topic is based upon the medicinal importance of *Clinacanthus nutans* in South East Asia.

Many research articles (*i.e.*, phytochemical, pre-clinical, in-vitro studies) published recently on *Clinacanthus nutans* were funded by the Ministry of Education Malaysia (MOE) under the National Key Economic Areas Research Grant Scheme (NKEA),¹⁹ the Fundamental Research Grant Scheme (FRGS),^{9,20} the Niche Research Grant Scheme (NRGS),²¹ and the Research Acculturation Grant Scheme (RAGS).²² The research funded by universities' internal grants, the natural Products Division, Forest Research Institute of Malaysia (FRIM).²³ The student in Malaysia is also encouraged to study this medicinal herb under MyBRAIN²⁴ and Malaysian International Scholarship (MIS).²⁵ The study on the selected plant funded by other countries such as National Natural Scientific Foundation of China (NSFC),²⁶ Vietnam National Foundation for Science and Technology Development (NAFOSTED),²⁷ National Research Council Thailand,²⁸ Thailand Research Fund²⁹ and Higher Education Commission Thailand.¹⁰

This study investigated trends in *Clinacanthus nutans* research in recent years using the Scopus database. The researcher analysed publication outcomes from the last 20 years (2000–2019). This first attempt to use bibliographic to analyse *Clinacanthus nutans*-related publications aims to understand better global trends in research of one of the most well-known medicinal herb of Southeast Asia.

Methods

Data source and search strategy

Clinacanthus nutans was used as a keyword to search inside the Scopus database. The data collection strictly follows the Scopus database and relevant articles indexed during the given time. Other databases, such as PubMed or Web of Science, are not part of the current study. In this study, the search terms were as follows: TITLE-ABS-KEY (clinacanthus AND nutans) AND PUBYEAR > 1999 AND PUBYEAR < 2020. A flow diagram of selected articles on *Clinacanthus nutans* is shown in Figure 1.

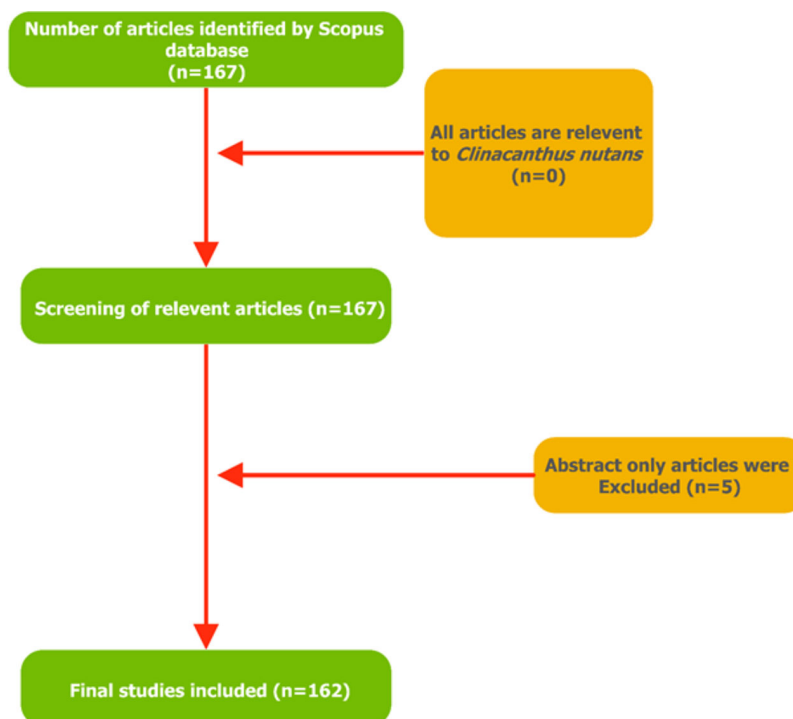


Figure 1. Flow diagram of selected articles on *Clinacanthus nutans*.

Information extraction

The data were downloaded from the Scopus database and imported manually into Microsoft Excel 2016 (RRID: SCR_016137); Google Sheets (RRID:SCR_017679) is an open access alternative. KYJ and QLC verified the data entry and collection. The entered data consist of articles, the first author, co-authors, h-index of the first and corresponding author from Scopus. The number of Scopus citation of selected articles were part of data collection. Other data consist of the name of journal/conference, journal ranking according to Scopus (CiteScore), date of publication according to the journal website, year of paper according to Scopus, data of submission of an article, date of acceptance, number of universities/organisation contributed to that publication, name of universities/organisation contributed to that publication, journal impact factor (CiteScore) taken from Scopus, type of article, most vital topic/category, subject area, keywords, list of the significant issue addressed, number of countries, location of authors, number of pages, number of references, number of figures, number of tables, an affiliation of the corresponding author, the association of the first author, funding and department/institution/faculty.

Statistical analysis

IBM SPSS Statistics 26 (RRID:SCR_019096; JASP (RRID:SCR_015823) is an open source alternative) and Microsoft Office Excel 2016 (Microsoft Corporation, Santa Rosa, California, USA) was used to analyse the characteristics of the publications. [Wordclouds.com](https://www.wordclouds.com/) (Zygomatic, Netherlands) has been used to create a cloud of keywords. GunnMap 2 was used to create a custom world map to depict the distribution of global publications on *Clinacanthus nutans*.

Results

Universiti Putra Malaysia contained the maximum number of record ($n = 38$), followed by University Sains Malaysia ($n = 18$). [Table 1](#) shows the top 10 institutions/universities that published their research on *Clinacanthus nutans*.

Khatib, A., from the International Islamic University Malaysia was found to be the most prominent researcher to contribute to *Clinacanthus nutans* ($n = 11$). Abas, F., was the top female researcher that contributes from Universiti Putra Malaysia, Serdang, Malaysia, on *Clinacanthus nutans* ($n = 10$). A list of the most prominent authors in studying *Clinacanthus nutans* is shown in [Table 2](#).

The *Journal of Ethnopharmacology* (ISSN 0378-8741) has published the highest number of records on *Clinacanthus nutans* ($n = 9$), whereas *BMC Complementary and Alternative Medicine* (ISSN 1472-6882) were second to published

Table 1. The top 10 institutions/universities published research on *Clinacanthus nutans*.

Name	Country	Global QS Ranking (2020)	Number of Records
Universiti Putra Malaysia	Malaysia	#159	38
Universiti Sains Malaysia	Malaysia	#=165	18
International Islamic University Malaysia	Malaysia	#651-700	15
Universiti Teknologi MARA	Malaysia	#651-700	12
Universiti Malaysia Sabah	Malaysia	#801-1000	10
Universiti Kebangsaan Malaysia	Malaysia	#=160	9
Universiti Teknologi Malaysia	Malaysia	#=217	8
Mahidol University	Thailand	#314	8
National University of Singapore	Singapore	#=11	5
Khon Kaen University	Thailand	#801-1000	5

Table 2. List of most prominent authors in studying on *Clinacanthus nutans*.

Name	Gender	Number of Records	Institution/Universities	h-index (Scopus, 2019)	i10-index (Scholar google)
Khatib, A.	Male	11	International Islamic University Malaysia, Kuala Lumpur, Malaysia	23	53
Abas, F.	Female	10	Universiti Putra Malaysia, Serdang, Malaysia	28	114
Zakaria, Z.A.	Male	8	Universiti Putra Malaysia, Serdang, Malaysia	31	108
Shaari, K.	Female	8	Universiti Putra Malaysia, Serdang, Malaysia	26	78
Ismail, M.	Female	6	Universiti Putra Malaysia, Serdang, Malaysia	25	110
Khoo, L.W.	Female	5	Universiti Putra Malaysia, Serdang, Malaysia	3	N/A
Tham, C.L.	Female	5	Universiti Putra Malaysia, Serdang, Malaysia	11	13
Abdullah Sani, N.	Female	5	Universiti Kebangsaan Malaysia, Bangi, Malaysia	13	23

Table 3. The top 10 journals to published on *Clinacanthus nutans*.

Rank	Journal	Number of Records	ISSN	CiteScore 2018
1	Journal of Ethnopharmacology	9	0378-8741	3.68
2	BMC Complementary and Alternative Medicine	8	1472-6882	2.69
3	Molecules	6	1420-3049	3.28
4	AIP Conference Proceedings	5	0094-243X	0.37
5	Evidence-based Complementary and Alternative Medicine	4	1741-427X	2.01
6	Acta Horticulture	4	0567-7572	0.25
7	Tropical Journal of Pharmaceutical Research	3	1596-5996	0.54
8	Asian Pacific Journal of Tropical Biomedicine	2	2221-1691	2.03
9	Asian Pacific Journal of Tropical Medicine	2	1995-7645	1.87
10.	Pharmaceutical Biology	2	1388-0209	2.43

(n = 8). The CiteScore (2018) of the *Journal of Ethnopharmacology* (3.68) was also highest among the other competing journals on this medicinal plant. Table 3 shows the top 10 journals publishing research on *Clinacanthus nutans*.

The authorship heat map shows some interesting facts. The number of authors has increased with time. There were few authors one of a paper in the initial years, but with time, the number of authors has increased to more than seven. This could be due to an increase in research on these medicinal herbs and increasing cross-collaboration among different institutions due to the rise in funding availability and utilisation of various resources from different universities (Figure 2).

The top influential articles published on *Clinacanthus nutans* are based upon bioactive constituents,^{30,31} anti-inflammatory property,²⁹ anti-cancer, and antioxidant potential of the plant³² (Table 4).



Figure 2. Authorship heat map of *Clinacanthus nutans* research 2000–2019.

Table 4. Top five influential articles on *Clinacanthus nutans* published during the period 2000–2019.

First and corresponding author with year	Article Title	Journal	Total Citation	Reference
Sakdarat, S., et al., 2009	Bioactive constituents from the leaves of <i>Clinacanthus nutans</i> Lindau	Bioorganic and Medicinal Chemistry	81	³⁰
Wanikiat, P., et al., 2008	The anti-inflammatory effects and the inhibition of neutrophil responsiveness by <i>Barleria lupulina</i> and <i>Clinacanthus nutans</i> extracts	Journal of Ethnopharmacology	71	²⁹
Yong, Y.K., et al., 2013	<i>Clinacanthus nutans</i> extracts are antioxidant with antiproliferative effect on cultured human cancer cell lines	Evidence-based Complementary and Alternative Medicine	69	³²
Tuntiawachwuttikul, P., et al., 2004	Cerebrosides and a monoacylmonogalactosylglycerol from <i>Clinacanthus nutans</i>	Chemical and Pharmaceutical Bulletin	50	³¹
Pannangpetch, P., et al., 2007	Antioxidant activity and protective effect against oxidative hemolysis of <i>Clinacanthus nutans</i> (Burm.f) Lindau	Songklanakarin Journal of Science and Technology	42	³⁹

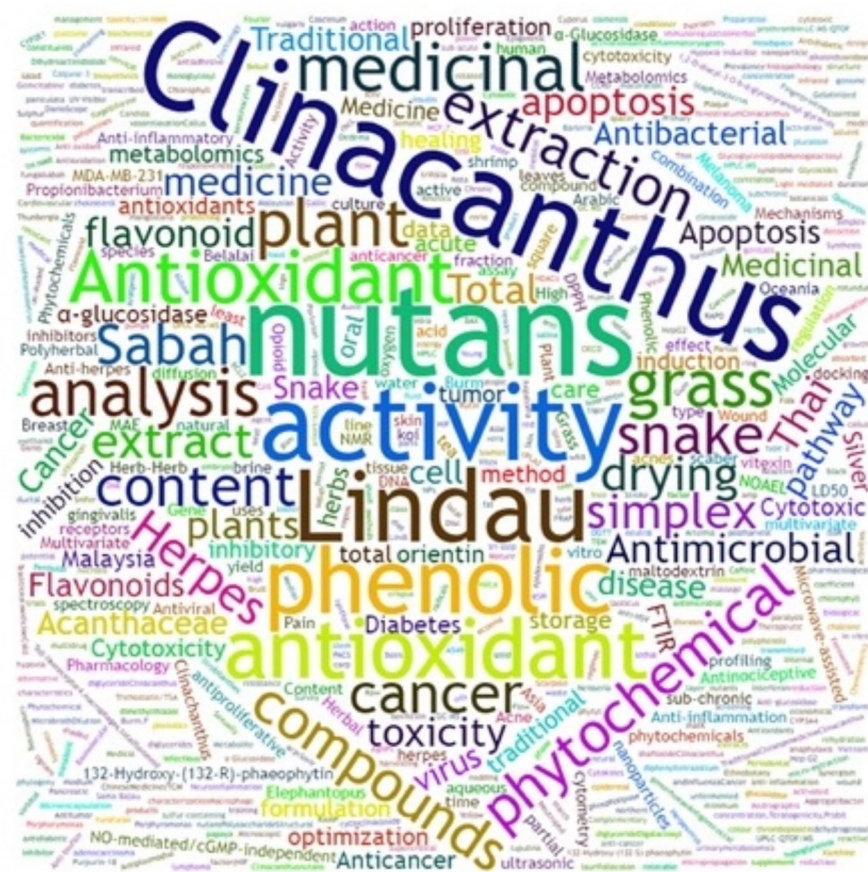


Figure 3. Mapping of keywords in the *Clinacanthus nutans* research.

Analysis of the keywords of articles published between 2000 and 2019 identified some significant interests, such as “anti-inflammatory”, “anti-cancer”, “antioxidants”, “antibacterial”, “flavonoids”, “phenolic”, “apoptosis”, and “traditional medicine”. Figure 3 illustrates the word cloud developed from the website.

The top fifty most cited papers, as of February 27, 2020, on *Clinacanthus nutans* were identified and are shown in Table 5.

There is an increasing trend in the number of the published article since 2012. There was a high number of citations and a low number of an articles published in 2005. This year is considered the period of initiation of research on these medicinal plants. Bioactive compounds were identified, giving a pathway to carry out further study (Figure 4).

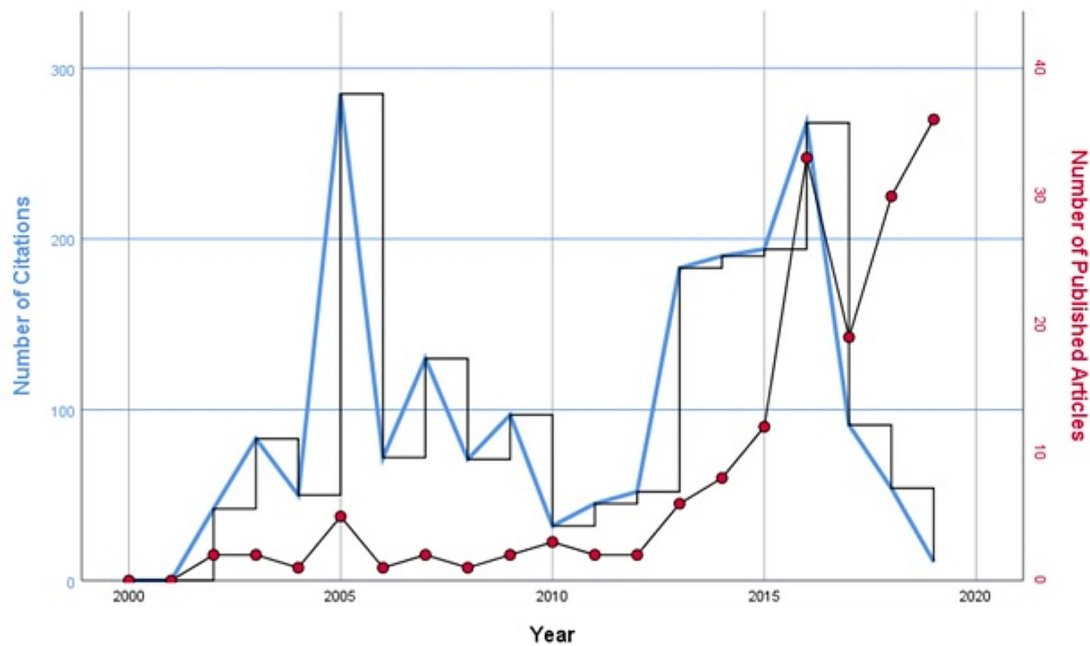
Malaysia was ranked as number one in producing papers on *Clinacanthus nutans*, followed by Thailand and then China. Figure 5 illustrates the global distribution of publication on *Clinacanthus nutans*.

Discussion

Clinacanthus nutans is one of the highly researched medicinal plants in recent years in Malaysia and Thailand. The bibliographic analysis helps to show the past trends on related topics, current research progress to identify the top researcher, institutions, and help find similar funding. Several articles published on bibliographic analysis in health-related fields.^{33,34} There is limited literature available on the bibliographic analysis of medicinal plants. The research identifies many phytochemical and pre-clinical studies on *Clinacanthus nutans*. Current research is more focused on

Table 5. List of top 50 cited papers on *Clinacanthus nutans*.

Rank	First author name	No of Citations	Rank	First author name	No of Citations
1	Chomnawang, M.T. ⁴⁰	173	26	Lusia Barek, M. ⁷⁵	23
2	Mahady, G.B. ⁴²	94	27	Huang, D. ⁷⁶	22
3	Chomnawang, M.T. ⁴⁴	88	28	Chelyn, J.L. ⁷⁷	22
4	Sakdarat, S. ³⁰	81	29	Aslam, M.S. ⁶	20
5	Uawonggul, N. ⁴⁷	72	30	Wong, F.-C. ⁷⁸	20
6	Wanikiat, P. ²⁹	71	31	Liew, S.-Y. ⁷⁹	20
7	Yong, Y.K. ³²	69	32	Shim, S.Y. ⁸⁰	18
8	Ching, S.M. ⁵¹	51	33	Abdul Rahim, M.H. ⁴¹	18
9	Tuntiwachwuttikul, P. ³¹	50	34	Saokaew, S. ⁴³	17
10	Alam, A. ⁵³	49	35	Yang, H.S. ⁴⁵	17
11	Cheeptham, N. ⁵⁵	42	36	Mustapa, A.N. ⁴⁶	16
12	Pannangpetch, P. ³⁹	42	37	Vachirayonstien, T. ⁴⁸	16
13	Arullappan, S. ⁵⁸	42	38	Chomnawang, M.T. ⁴⁹	16
14	Mustapa, A.N. ⁶⁰	40	39	Thongrakard, V. ⁵⁰	14
15	Janwitayanuchit, W. ⁶²	39	40	Zulkipli, I.N. ⁵	13
16	Siew, Y.-Y. ⁶⁴	36	41	Tsai, H.-D. ⁵²	13
17	Ghasemzadeh, A. ⁶⁶	33	42	Teoh, P.L. ⁵⁴	12
18	Chotchoungchatchai, S. ⁶⁸	32	43	Ch'ng, Y.S. ⁵⁶	12
19	Tu, S.-F. ⁷⁰	29	44	Raya, K.B. ⁵⁷	12
20	Kongkaew, C. ⁷¹	28	45	Sarega, N. ⁵⁹	10
21	Kunsorn, P. ¹⁰	28	46	Pongmuangmul, S. ⁶¹	10
22	Mustapa, A.N. ⁷²	28	47	Le, C.-F. ⁶³	9
23	Khoo, L.W. ⁷³	28	48	Fazil, F.N.M. ⁶⁵	9
24	Mai, C.W. ⁸	25	49	Radhakrishnan, N. ⁶⁷	9
25	Huang, D. ⁷⁴	23	50	Yahaya, R. ⁶⁹	9

**Figure 4.** Correlation between yearly output, number of citation and number of published articles.

toxicity studies³⁵⁻³⁷ before preparing for clinical trials to evaluate its health benefits on humans. Although there is an increasing trend in pre-clinical studies on *Clinacanthus nutans*, there is a lack of protocols or research to conduct the clinical trial. The only available registered clinical trial when search through clinicaltrials.gov had the title “prevention of mucositis in patients with head and neck cancer treated with radiotherapy”,³⁸ which completed in March 2018. The research also identified an increasing trend in research collaboration in recent years, which could be a positive direction for developing a new drug analogue or a multi-herb combination.

Conclusion

Ethics declarations

Consent for publication

Data availability

All data underlying the results are available as part of the article and no additional source data are required.

All authors participated in the study conception and design. MSA performed the bibliographic analysis. KYJ and QLC interpreted the data, drafted and critically revised the manuscript and approved the final version to be published. All authors had full access to all the data and took responsibility for the data integrity and data analysis accuracy.

The authors would like to thank Xiamen University Malaysia for providing the support in the current study.

References

- Bhattacharjee T, Sen S, Chakraborty R, *et al.*: **Cultivation of medicinal plants: Special reference to important medicinal plants of India.** In: *Herbal Medicine in India: Indigenous Knowledge, Practice, Innovation and its Value*. Springer Singapore; 2019 [cited 2020 Jul 26]. p. 101–15.
[Reference Source](#)
- Li Y, Kong D, Fu Y, *et al.*: **The effect of developmental and environmental factors on secondary metabolites in medicinal plants.** *Plant Physiol Biochem.* 2020 Mar; **148**: 80–89.
[Publisher Full Text](#) | [Reference Source](#)
- Newman DJ: **Modern traditional Chinese medicine: Identifying, defining and usage of TCM components.** *Adv Pharmacol.* Academic Press Inc.; 2020 [cited 2020 Jul 27]. p. 113–58.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Yu X, Sun S, Guo Y, *et al.*: **Citri Reticulatae Pericarpium (Chenpi): Botany, ethnopharmacology, phytochemistry, and pharmacology of a frequently used traditional Chinese medicine.** *J Ethnopharmacol.* 2018 Jun 28 [cited 2020 Jul 27]; **220**: 265–82.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Zulkipili IN, Rajabalaya R, Idris A, *et al.*: **Clinacanthus nutans: a review on ethnomedicinal uses, chemical constituents and pharmacological properties.** *Pharm Biol.* 2017 Jan 1; **55**(1): 1093–113.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Aslam MS, Ahmad MS, Mamat AS: **A review on phytochemical constituents and pharmacological activities of Clinacanthus nutans.** *Int J Pharm Pharm Sci.* 2015; **7**(2).
- Khoo LW, Audrey Kow S, Lee MT, *et al.*: **A Comprehensive Review on Phytochemistry and Pharmacological Activities of Clinacanthus nutans (Burm.f.) Lindau.** *Evidence-Based Complement Altern Med.* 2018 Jul 4; **2018**: 1–39.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Mai CW, Yap KSI, Kho MT, *et al.*: **Mechanisms Underlying the Anti-Inflammatory Effects of Clinacanthus nutans Lindau Extracts: Inhibition of Cytokine Production and Toll-Like Receptor-4 Activation.** *Front Pharmacol.* 2016 Feb 2; **7**.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Nik Abd Rahman NMA, Nurliyana MY, Afqah MNFNN, *et al.*: **Antitumor and antioxidant effects of Clinacanthus nutans Lindau in 4 T1 tumor-bearing mice.** *BMC Complement Altern Med.* 2019 Dec 29; **19**(1): 340.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Kunsorn P, Ruangrunsi N, Lipipun V, *et al.*: **The identities and anti-herpes simplex virus activity of Clinacanthus nutans and Clinacanthus siamensis.** *Asian Pac J Trop Biomed.* 2013 Apr; **3**(4): 284–90.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Hanafiah RM, Kamaruddin KAC, Saikin NAA, *et al.*: **Antibacterial properties of clinacanthus nutans extracts against porphyromonas gingivalis and aggregatibacter actinomycetemcomitans: An in-vitro study.** *J Int Dent Med Res.* 2019; **12**(2): 401–4.
- Shrestha S, Danekhu K, KC B, *et al.*: **Bibliometric analysis of adverse drug reactions and pharmacovigilance research activities in Nepal.** *Ther Adv Drug Saf.* 2020.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Gao Y, Wang F, Song Y, *et al.*: **The status of and trends in the pharmacology of berberine: a bibliometric review [1985–2018].** *Chin Med.* 2020 Dec 20; **15**(1): 7.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Joyce CW, Kelly JC, Sugrue C: **A bibliometric analysis of the 100 most influential papers in burns.** *Burns.* 2014 Feb; **40**(1): 30–37.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Chen H-L, Cai D-Y, Shen W-Q, *et al.*: **Bibliometric Analysis of Pressure Ulcer Research.** *J Wound, Ostomy Cont Nurs.* 2010; **37**(6): 627–32.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Ugolini D, Neri M, Casilli C, *et al.*: **A bibliometric analysis of scientific production in mesothelioma research.** *Lung Cancer.* 2010.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Wrafter PF, Connelly TM, Khan J, *et al.*: **The 100 most influential manuscripts in colorectal cancer: A bibliometric analysis.** *Surg.* 2016 Dec; **14**(6): 327–36.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Teles RHG, Morales HF, Cominetti MR: **Global trends in nanomedicine research on triple negative breast cancer: A bibliometric analysis.** *Int J Nanomedicine.* 2018.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Murugesu S, Ahmed QU, Uzir BF, *et al.*: **Rapid investigation of α -glucosidase inhibitory activity of Clinacanthus nutans leaf using infrared fingerprinting.** *Vib Spectrosc.* 2019.
- Mutazah R, Hamid HA, Mazila Ramli AN, *et al.*: **In vitro cytotoxicity of Clinacanthus nutans fractions on breast cancer cells and molecular docking study of sulphur containing compounds against caspase-3.** *Food Chem Toxicol.* 2020 Jan; **135**: 110869.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Murugesu S, Khatib A, Ibrahim Z, *et al.*: **Antidiabetic and antioxidants activities of Clinacanthus nutans (Burm F.) Lindau leaves extracts.** *Int Food Res J.* 2019; **26**(1): 319–27.
- Yakop F, Abd Ghafar SA, Yong YK, *et al.*: **Silver nanoparticles Clinacanthus Nutans leaves extract induced apoptosis towards oral squamous cell carcinoma cell lines.** *Artif Cells, Nanomedicine Biotechnol.* 2018.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Szi KYP, Ghazali WASW, Abdullah SF, *et al.*: **Cell proliferation assessment of human gingival fibroblasts treated with Clinacanthus nutans using alamarBlue assay.** *Arch Orofac Sci.* 2018; **13**(2): 80–85.
- Che Sulaiman IS, Basri M, Fard Masoumi HR, *et al.*: **Predicting the optimum compositions of a transdermal nanoemulsion system containing an extract of Clinacanthus nutans leaves (L.) for skin antiaging by artificial neural network model.** *J Chemom.* 2017 Jul; **31**(7): e2894.
[Publisher Full Text](#)
- Alam MA, Zaidul ISM, Ghafoor K, *et al.*: **In vitro antioxidant and α -glucosidase inhibitory activities and comprehensive metabolite profiling of methanol extract and its fractions from Clinacanthus nutans.** *BMC Complement Altern Med.* 2017.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
- Diao H-Z, Chen W-H, Cao J, *et al.*: **Furofuran lignans and alkaloids from Clinacanthus nutans.** *Nat Prod Res.* 2019 May 3; **33**(9): 1317–21.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Duong NT, Vinh PD, Thuong PT, *et al.*: **Xanthine oxidase inhibitors from Archidendron clypearia (Jack.) I.C. Nielsen: Results from systematic screening of Vietnamese medicinal plants.** *Asian Pac J Trop Med.* 2017 Jun; **10**(6): 549–56.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Suesatpanit T, Osathanunkul K, Madesis P, *et al.*: **Should DNA sequence be incorporated with other taxonomical data for routine identifying of plant species? BMC Complement Altern Med.** 2017 Dec 31; **17**(1): 437.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Wanikiat P, Panthong A, Sujayanon P, *et al.*: **The anti-inflammatory effects and the inhibition of neutrophil responsiveness by Barleria lupulina and Clinacanthus nutans extracts.** *J Ethnopharmacol.* 2008 Mar; **116**(2): 234–44.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Sakdarat S, Shuypprom A, Pientong C, *et al.*: **Bioactive constituents from the leaves of Clinacanthus nutans Lindau.** *Bioorg Med Chem.* 2009 Mar; **17**(5): 1857–60.
[PubMed Abstract](#) | [Publisher Full Text](#)
- Tuntiwachwuttikul P, Pootaeng-on Y, Phansa P, *et al.*: **Cerebrosides and a Monoacylmonogalactosylglycerol from Clinacanthus nutans.** *Chem Pharm Bull (Tokyo).* 2004; **52**(1): 27–32.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Yong yoke K, Tan JJ, Teh SS, *et al.*: **Clinacanthus nutans Extracts Are Antioxidant with Antiproliferative Effect on Cultured Human Cancer Cell Lines.** *Evidence-Based Complement Altern Med.* 2013; **2013**: 1–8.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
- Ding H, Song X, Chen L, *et al.*: **The 100 most-cited papers in general thoracic surgery: A bibliography analysis.** *Int J Surg.* 2018 May; **53**: 230–8.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
- Sharma P, Verma PR, Meena PD, *et al.*: **Research Progress Analysis of Sclerotinia rot (Sclerotinia sclerotiorum) of oilseed Brassicas through Bibliography.** *J Oilseed Brassica.* 2015; Vol. 6.

35. Khoo L, Foong Kow A, Maulidiani M, *et al.*: **Hematological, Biochemical, Histopathological and ¹H-NMR Metabolomics Application in Acute Toxicity Evaluation of Clinacanthus nutans Water Leaf Extract.** *Molecules*. 2018 Aug 29; **23**(9): 2172. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
36. Murugesu S, Khatib A, Ahmed QU, *et al.*: **Toxicity study on Clinacanthus nutans leaf hexane fraction using Danio rerio embryos.** *Toxicol Rep*. 2019; **6**: 1148–54. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
37. Abdulwahid SJ, Goh MY, Ebrahimi M, *et al.*: **Sub-acute oral toxicity profiling of the methanolic leaf extract of Clinacanthus nutans in male and female ICR mice.** *Int J Pharm Pharm Sci*. 2018 Dec 1; **10**(12): 25. [Publisher Full Text](#) | [Reference Source](#)
38. **Prevention of Mucositis in Patients With Head and Neck Cancer Treated With Radiotherapy - Full Text View - ClinicalTrials.gov.** [cited 2020 Jul 27]. [Reference Source](#)
39. Pannangpetch P, Laupattarakasem P, Kukongviriyapan V, *et al.*: **Antioxidant activity and protective effect against oxidative hemolysis of Clinacanthus nutans (Burm. f) Lindau.** *Songklanakarin J Sci Technol*. 2007; **29**(MARCH): 1–9.
40. Chomnawang MT, Surassmo S, Nukoolkarn VS, *et al.*: **Antimicrobial effects of Thai medicinal plants against acne-inducing bacteria.** *J Ethnopharmacol*. 2005; **101**(1–3): 330–3. [PubMed Abstract](#) | [Publisher Full Text](#)
41. Abdul Rahim MH, Zakaria ZA, Mohd Sani MH, *et al.*: **Methanolic Extract of Clinacanthus nutans Exerts Antinociceptive Activity via the Opioid/Nitric Oxide-Mediated, but cGMP-Independent, Pathways.** *Evid Based Complement Alternat Med*. 2016; **2016**: 1–11. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
42. Mahady G: **Medicinal Plants for the Prevention and Treatment of Bacterial Infections.** *Curr Pharm Des*. 2005 Jul 1; **11**(19): 2405–27. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
43. Saokaew S, Suwankesawong W, Permsuwan U, *et al.*: **Safety of Herbal Products in Thailand.** *Drug Saf*. 2011 Apr; **34**(4): 339–50. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
44. Chomnawang MT, Surassmo S, Nukoolkarn VS, *et al.*: **Effect of Garcinia mangostana on inflammation caused by Propionibacterium acnes.** *Fitoterapia*. 2007; **78**(6): 401–8. [PubMed Abstract](#) | [Publisher Full Text](#)
45. Yang HS, Peng TW, Madhavan P, *et al.*: **Phytochemical analysis and antibacterial activity of methanolic extract of Clinacanthus nutans leaf.** *Int J Drug Dev Res*. 2013; **5**(3): 349–55.
46. Mustapa AN, Martin A, Sanz-Moral LM, *et al.*: **Impregnation of medicinal plant phytochemical compounds into silica and alginate aerogels.** *J Supercrit Fluids*. 2016 Oct; **116**: 251–63. [Publisher Full Text](#) | [Reference Source](#)
47. Uawonggul N, Chaveerach A, Thammasirirak S, *et al.*: **Screening of plants acting against Heterometrus laoticus scorpion venom activity on fibroblast cell lysis.** *J Ethnopharmacol*. 2006 Jan; **103**(2): 201–7. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
48. Vachirayonstien T, Promkhatkaew D, Bunjob M, *et al.*: **Molecular evaluation of extracellular activity of medicinal herb Clinacanthus nutans against herpes simplex virus type-2.** *Nat Prod Res*. 2010 Feb 15; **24**(3): 236–45. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
49. Chomnawang MT, Trinapakul C, Gritsanapan W: **In vitro antigonococcal activity of Coscinium fenestratum stem extract.** *J Ethnopharmacol*. 2009 Apr; **122**(3): 445–9. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
50. Thongrakard V, Tencomnao T: **Modulatory effects of Thai medicinal plant extract on proinflammatory cytokines-induced apoptosis in human keratinocyte HaCat cells.** *African J Biotechnol*. 2010; **9**(31): 4999–5003.
51. Ching SM, Zakaria ZA, Paimin F, *et al.*: **Complementary alternative medicine use among patients with type 2 diabetes mellitus in the primary care setting: a cross-sectional study in Malaysia.** *BMC Complement Altern Med*. 2013 Dec 26; **13**(1): 148. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
52. Tsai H-D, Wu J-S, Kao M-H, *et al.*: **Clinacanthus nutans Protects Cortical Neurons Against Hypoxia-Induced Toxicity by Downregulating HDAC1/6.** *NeuroMolecular Med*. 2016 Sep 10; **18**(3): 274–82. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
53. Alam A, Ferdosh S, Ghafoor K, *et al.*: **Clinacanthus nutans: A review of the medicinal uses, pharmacology and phytochemistry.** *Asian Pac J Trop Med*. 2016 Apr; **9**(4): 402–9. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
54. Teoh PL, Cheng AYF, Liao M, *et al.*: **Chemical composition and cytotoxic properties of Clinacanthus nutans root extracts.** *Pharm Biol*. 2017 Jan 8; **55**(1): 394–401. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
55. Cheeptham N, Towers GHN: **Light-mediated activities of some Thai medicinal plant teas.** *Fitoterapia*. 2002 Dec; **73**(7–8): 651–62. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
56. Yam MF, Ch'ng YS, Tan CS, *et al.*: **Vasorelaxation Study and Tri-Step Infrared Spectroscopy Analysis of Malaysian Local Herbs.** *J Pharmacopuncture*. 2016 Jun 30; **19**(2): 145–54. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
57. Raya KB, Ahmad SH, Farhana SF, *et al.*: **Changes in phytochemical contents in different parts of Clinacanthus nutans (Burm. f.) lindau due to storage duration.** *Bragantia*. 2015 Aug 21; **74**(4): 445–52. [Publisher Full Text](#) | [Reference Source](#)
58. Arullappan S, Rajamanickam P, Thevar N, *et al.*: **In Vitro Screening of Cytotoxic, Antimicrobial and Antioxidant Activities of Clinacanthus nutans (Acanthaceae) leaf extracts.** *Trop J Pharm Res*. 2014 Oct 10; **13**(9): 1455. [Publisher Full Text](#) | [Reference Source](#)
59. Sarega N, Imam MU, Ooi D-J, *et al.*: **Phenolic Rich Extract from Clinacanthus nutans Attenuates Hyperlipidemia-Associated Oxidative Stress in Rats.** *Oxid Med Cell Longev*. 2016; **2016**: 1–16. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
60. Mustapa AN, Martin Á, Mato RB, *et al.*: **Extraction of phytocompounds from the medicinal plant Clinacanthus nutans Lindau by microwave-assisted extraction and supercritical carbon dioxide extraction.** *Ind Crops Prod*. 2015 Nov; **74**: 83–94. [Publisher Full Text](#) | [Reference Source](#)
61. Pongmuangmul S, Phumiamorn S, Sanguanserm Sri P, *et al.*: **Anti-herpes simplex virus activities of monogalactosyl diglyceride and digalactosyl diglyceride from Clinacanthus nutans, a traditional Thai herbal medicine.** *Asian Pac J Trop Biomed*. 2016 Mar; **6**(3): 192–7. [Publisher Full Text](#) | [Reference Source](#)
62. Janwitayanuchit W, Suwanborirux K, Patarapanich C, *et al.*: **Synthesis and anti-herpes simplex viral activity of monoglycosyl diglycerides.** *Phytochemistry*. 2003 Dec; **64**(7): 1253–64. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
63. Le C-F, Kailaivasan TH, Chow S-C, *et al.*: **Phytosterols isolated from Clinacanthus nutans induce immunosuppressive activity in murine cells.** *Int Immunopharmacol*. 2017 Mar; **44**: 203–10. [PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
64. Siew Y-Y, Zareisedehzadeh S, Seetoh W-G, *et al.*: **Ethnobotanical survey of usage of fresh medicinal plants in Singapore.** *J Ethnopharmacol*. 2014 Sep; **155**(3): 1450–66. [PubMed Abstract](#) | [Publisher Full Text](#)
65. Fazil FNM, Azzimi NSM, Yahaya BH, *et al.*: **Kinetics Extraction Modelling and Antiproliferative Activity of Clinacanthus nutans Water Extract.** *Sci World J*. 2016; **2016**: 1–7. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
66. Ghasemzadeh A, Nasiri A, Jaafar H, *et al.*: **Changes in Phytochemical Synthesis, Chalcone Synthase Activity and Pharmaceutical Qualities of Sabah Snake Grass (Clinacanthus nutans L.) in Relation to Plant Age.** *Molecules*. 2014 Oct 30; **19**(11): 17632–48. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
67. Narayanaswamy R, Isha A, Wai L, *et al.*: **Molecular docking analysis of selected Clinacanthus nutans constituents as xanthine oxidase, nitric oxide synthase, human neutrophil elastase, matrix metalloproteinase 2, matrix metalloproteinase 9 and squalene synthase inhibitors.** *Pharmacogn Mag*. 2016; **12**(45): 21. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
68. Chotchoungchatchai S, Saralamp P, Jenjittikul T, *et al.*: **Medicinal plants used with Thai Traditional Medicine in modern healthcare services: A case study in Kabchoeng Hospital, Surin Province, Thailand.** *J Ethnopharmacol*. 2012 May; **141**(1): 193–205. [PubMed Abstract](#) | [Publisher Full Text](#)

69. Yahaya R, Dash GK, Abdullah MS, *et al.*: **Clinacanthus nutans (burm. F.) Lindau: An useful medicinal plant of south-east Asia.** *Int J Pharmacogn Phytochem Res.* 2015; **7**(6): 1244–50.
70. Tu S-F, Liu R, Cheng Y-B, *et al.*: **Chemical Constituents and Bioactivities of Clinacanthus nutans Aerial Parts.** *Molecules.* 2014 Dec 5; **19**(12): 20382–90.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
71. Kongkaew C, Chaiyakunapruk N: **Efficacy of Clinacanthus nutans extracts in patients with herpes infection: Systematic review and meta-analysis of randomised clinical trials.** *Complement Ther Med.* 2011 Feb; **19**(1): 47–53.
[PubMed Abstract](#) | [Publisher Full Text](#)
72. Mustapa AN, Martin A, Gallego JR, *et al.*: **Microwave-assisted extraction of polyphenols from Clinacanthus nutans Lindau medicinal plant: Energy perspective and kinetics modeling.** *Chem Eng Process Process Intensif.* 2015 Nov; **97**: 66–74.
[Publisher Full Text](#) | [Reference Source](#)
73. Khoo LW, Mediani A, Zolkeflee NKZ, *et al.*: **Phytochemical diversity of Clinacanthus nutans extracts and their bioactivity correlations elucidated by NMR based metabolomics.** *Phytochem Lett.* 2015 Dec; **14**: 123–33.
[Publisher Full Text](#) | [Reference Source](#)
74. Huang D, Guo W, Gao J, *et al.*: **Clinacanthus nutans (Burm. f.) Lindau Ethanol Extract Inhibits Hepatoma in Mice through Upregulation of the Immune Response.** *Molecules.* 2015 Sep 18; **20**(9): 17405–28.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#) | [Reference Source](#)
75. Lusia Berek M, Hasmadi M, Zaleha AZ, *et al.*: **Effect of different drying methods on phytochemicals and antioxidant properties of unfermented and fermented teas from Sabah snake grass (Clinacanthus nutans Lind.) leaves.** *Int Food Res J.* 2015; **22**(2): 661–70.
76. Huang D, Li Y, Cui F, *et al.*: **Purification and characterization of a novel polysaccharide–peptide complex from Clinacanthus nutans Lindau leaves.** *Carbohydr Polym.* 2016 Feb; **137**: 701–8.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
77. Chelyn JL, Omar MH, Mohd Yousof NSA, *et al.*: **Analysis of Flavone C -Glycosides in the Leaves of Clinacanthus nutans (Burm. f.) Lindau by HPTLC and HPLC-UV/DAD.** *Sci World J.* 2014; 2014(September 2015): 1–6.
[Reference Source](#)
78. Wong FC, Yong AL, Ting EPS, *et al.*: **Antioxidant, metal chelating, anti-glucosidase activities and phytochemical analysis of selected tropical medicinal plants.** *Iran J Pharm Res.* 2014; **13**(4): 1407–13.
[PubMed Abstract](#) | [Free Full Text](#)
79. Liew S-Y, Stanbridge EJ, Yusoff K, *et al.*: **Hypoxia affects cellular responses to plant extracts.** *J Ethnopharmacol.* 2012 Nov; **144**(2): 453–6.
[PubMed Abstract](#) | [Publisher Full Text](#) | [Reference Source](#)
80. Shim SY, Aziana I, Khoo BY: **Perspective and insight on Clinacanthus nutans Lindau in traditional medicine.** *Int J Integr Biol.* 2013; **14**(1): 7–9.

Open Peer Review

Current Peer Review Status:  

Version 1

Reviewer Report 09 September 2021

<https://doi.org/10.5256/f1000research.56280.r91643>

© 2021 Azer S. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



Samy A Azer 

Department of Medical Education, King Saud University College of Medicine, Riyadh, Saudi Arabia

Bibliographic analysis of *Clinacanthus nutans* papers in Scopus database (2000–2019) [version 1, not approved]

Thank you for asking me to review the above-titled manuscript. The current version is confusing, not carefully written, inaccurate, not well designed and full of bias. I have detailed comments below. If the authors respond to my comments, please kindly submit a point-by-point response letter, addressing each point raised by the reviewers, plus page and line numbers; thank you.

Abstract:

1. The aims do not mention "bibliometric analysis"; mentioned in the title.
2. State a research question.
3. What search words were used? And when the search was carried out?
4. State inclusion and exclusion criteria (if no space in the abstract, you must state this under methods).
5. Why only top 10 and then top 5? As a rule in bibliometric studies, we do not report samples; we assess the whole number of papers identified 162 papers.
6. Results should show figures - mean $\pm$ SD, Median IQR, correlations, factor analysis and p-value. Not numbers or %.
7. The statement "Five papers were removed because not available" is not clear. If these papers were withdrawn, state this. If they were not available to you, they should be ordered and studied.
8. The last 4 lines in methods are part of the results, please move them. We do not know any

bibliometric analysis like number of citations, type of article, number of authors, number of countries/institutes, number of grants received etc. Please read other bibliometric studies for reference.

9. Conclusions should be rewritten.

Introduction:

1. What triggered this study? Why do we need this study?
2. Provide more information about *Clinacanthus nutans* and research and uses.
3. The section about funding is redundant. It should be omitted or moved to the discussion. But, I wonder why the authors did not include grant funding in their assessment of the 162 papers as part of their bibliometric assessment? It should be included.
4. State your research question.

Figure 1:

1. These 5 figures that were not included, if these papers were withdrawn, state this clearly and add their details in a box. Showing names of authors, title, journal and detailed publication, and when was each withdrawn. If not withdrawn, we need we know on what bases were excluded. What was the justification?

Methods:

1. State study design. State why the Web of Science database was not searched instead of Scopus. Give justification.
2. State the inclusion and exclusion criteria.
3. State the bibliometric parameters and add grants/funding received.
4. Read other papers on bibliometric studies published in BMJ and BMJ open and other top journals for reference.
5. Citations are needed in the methods.
6. Analysis should include mean $\pm$ SD, Median IQR, correlation, p-value etc.

Results:

1. Why was the JIF not provided?

Table 1:

1. Total number of records is 128, while the total number of papers as per Figure 1 is 162. Where are the other missing records? Are you just interested in showing certain universities and ignoring others? But another bias is obvious when we look at Figure 5 and the authors showing Canada, the USA, Australia, India, Norway, Saudi Arabia and others involved in *Clinacanthus nutans*, I understand in these 162 papers. Why the universities and authors from these countries were not even mentioned in the paper or Table 1.

Table 2:

1. You should include all authors who have 2 or more papers, and show the citation number, and in which was the first author or co-author. The authors must read proper papers on this area.

2. Again we do not give samples. If you are studying 162 papers. They all must be analysed and they should be listed in the list of references to see them and assess them as reviewers, editors, and readers. Research is about transparency, please do not give samples or do short-cuts.

Table 3:

1. Citations must be given next to the number of papers. If the number of papers is 9, you should write 9 [Reference numbers of the 9 papers].

Figure 2 is not clear.**Table 4:**

1. What is "Influential"? On what basis did you select these papers and give them that title? What is your definition of an "Influential" author or paper? We must see an assessment of the 162 papers not samples of 5 or 10. This table should be omitted. It also contradicts Table 5. In Table 5, Chomnawang, M.T has the highest number of citations (173), compared to Sakdarat, S. (81 citations). It is confusing and not clear how did you define "influential"? What are the criteria? Why were such details not explained in the method?

Figure 5:

1. Distribution of global publications on *Clinacanthus nutans*." - This should be explained in the methods and results, and we need to know details about papers produced by these countries. The authors should not be selective.

Discussion:

1. Should be rewritten and improved. The whole manuscript needs an English language edit to improve grammar for clarity.

References:

1. The 162 papers must be listed all in references, not samples of them. Please read other literature in bibliometric analysis for reference.

Is the work clearly and accurately presented and does it cite the current literature?

No

Is the study design appropriate and is the work technically sound?

No

Are sufficient details of methods and analysis provided to allow replication by others?

Partly

If applicable, is the statistical analysis and its interpretation appropriate?

No

Are all the source data underlying the results available to ensure full reproducibility?

No

Are the conclusions drawn adequately supported by the results?

No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: In bibliometrics analysis, top-cited articles, medical informatics, and medical education.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

Reviewer Report 02 June 2021

<https://doi.org/10.5256/f1000research.56280.r86084>

© 2021 Ahmi A. This is an open access peer review report distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.



Aidi Ahmi 

Tunku Puteri Intan Safinaz School of Accountancy, Universiti Utara Malaysia, Sintok, Malaysia

This paper seems to have the interest to cover a bibliometric analysis of the *Clinacanthus nutans* over the past 20 years. However, while it has presented a few bibliometric indicators, this paper seems doesn't have a clear direction and objectives. I would suggest the aims of this paper and the research questions clearly being defined in the background section. The authors did specify that they want to analyze the trend but it seems too general.

I'm not sure if the problem statement is clearly being defined i.e. the reason why this bibliometric analysis is important to be conducted. The literature review on the subject matters also seems not convincing.

Why the results of the fundings are presented in the background section?

Methods

- I'm not sure mentioning the author names in order to do the data entry and verification is proper in this academic paper.
- Based on this statement: "*The entered data consist of articles, the first author, co-authors, h-index of the first and corresponding author from Scopus.*" - I'm not sure the data entry still required as most of the data downloaded from Scopus were already completed. I'm not sure if the h-index of the first and corresponding author from Scopus is necessary to be collected while it not being presented in the results. The result presented is just about the top author (in which they can be not just the first or corresponding author). I don't think the h-index of the authors is necessary as well. The h-index of the publications probably more meaningful.
- These statements seem quite confusing: "*journal ranking according to Scopus (CiteScore)*" and "*journal impact factor (CiteScore)*" - I think the definition of CiteScore has been misinterpreted here.

- Some of the data collected and mentioned in the information extraction section seem not even been analyzed. So, what for? Some also seem not practical such as the location of authors (?), the association of the first author (?), most vital topic/category (?).
- Not sure why IBM SPSS Statistics 26 has been used since there is no complicated statistic has been presented in this paper.

Results

- All the results presented are too descriptive. There are no further interpretations or elaborations that worth as part of the contribution of this paper. The so-what question has not properly addressed for each of the results.
- Would be good if the analysis can be extended in order to analyze the impact of the paper based on the number of citations and h-index on the publications.
- Figure 4 looks quite confusing. What is the difference between yearly output and the number of published articles?
- There is no legend for Figure 5. Not sure what the colours are representing.

Discussion

- I am not sure how the results of this paper can really "help find similar funding".
- *"Several articles published on bibliographic analysis in health-related fields"* - this is the health-related topic, of course, it will be published in this related journal.
- The contribution of this paper seems not convincing enough to justify the indexing of this paper.

Conclusions

- Not sure if the conclusion is really derived from the findings.
- How about the limitations of the study and future research?

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

No

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

No

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

No

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Bibliometric analysis

I confirm that I have read this submission and believe that I have an appropriate level of expertise to state that I do not consider it to be of an acceptable scientific standard, for reasons outlined above.

The benefits of publishing with F1000Research:

- Your article is published within days, with no editorial bias
- You can publish traditional articles, null/negative results, case reports, data notes and more
- The peer review process is transparent and collaborative
- Your article is indexed in PubMed after passing peer review
- Dedicated customer support at every stage

For pre-submission enquiries, contact research@f1000.com

F1000Research