

Supplementary data

Plectranthus Species with Anti-Inflammatory and Analgesic Potential: A Systematic Review on Ethnobotanical and Pharmacological Findings

Maysa de Oliveira Barbosa ^{1,†}, Polrat Wilairatana ^{2,*†}, Giovana Mendes de Lacerda Leite ¹, Gyllyandeson de Araújo Delmondes ³, Lucas Yure Santos da Silva ¹, Silvio Caetano Alves Júnior ⁴, Lindaiane Bezerra Rodrigues Dantas ¹, Daniel Souza Bezerra ¹, Izabel Cristina Santiago Lemos de Beltrão ¹, Diógenes de Queiroz Dias ¹, Jaime Ribeiro-Filho ⁴, Cícero Francisco Bezerra Felipe ⁵, Henrique Douglas Melo Coutinho ¹, Irwin Rose Alencar de Menezes ^{1,*†} and Marta Regina Kerntopf Mendonça ¹

- ¹ Department of Biological Chemistry, Regional University of Cariri-URCA, Crato 63105-000, CE, Brazil; maysabarbosa.ce@gmail.com (M.d.O.B.); giovanalacerda_@hotmail.com (G.M.d.L.L.); lucas.yure@urca.br (L.Y.S.d.S.); lindaianebrd@gmail.com (L.B.R.D.); danielbezerra02@gmail.com (D.S.B.); izabel.lemos@urca.br (I.C.S.L.d.B.); diogenes@gmail.com (D.d.Q.D.); hdmcoutinho@gmail.com (H.D.M.C.); martaluiz@yahoo.com.br (M.R.K.M.)
- ² Department of Clinical Tropical Medicine, Faculty of Tropical Medicine, Mahidol University, Bangkok 10400, Thailand
- ³ Collegiate of Nursing, Federal University of Vale do São Francisco (UNIVASF), Petrolina 56304-917, PE, Brazil; gyllyandeson.delmondes@univasf.edu.br
- ⁴ Oswaldo Cruz Foundation (FIOCRUZ), Fiocruz Ceará, Eusébio 61773-270, CE, Brazil; silvio.alves.bio@gmail.com (S.C.A.J.); jaime.ribeiro@fiocruz.br (J.R.-F.)
- ⁵ Department of Molecular Biology, Federal University of Paraíba, João Pessoa 58051-900, PB, Brazil; cicero@dbm.ufpb.br
- * Correspondence: polrat.wil@mahidol.ac.th (P.W.); irwin.alencar@urca.br (I.R.A.d.M.); Tel.: +55-88-31021291 (I.R.A.d.M.)
- † These authors contributed equally to this work.

Table S1. Outline of the descriptor applications and their combinations to databases.

<i>Plectranthus</i> AND PAIN/NOCICEPTION				
Combination	Translation of the search			
	PubMed	ScienceDirect	Scopus	Web of Science
<i>Plectranthus</i> and analgesic effect	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Analgesics"[All Fields] OR "Analgesics"[MeSH Terms] OR "Analgesics"[All Fields] OR "Analgesic"[All Fields]) AND Effect[All Fields]	NR	(TITLE-ABS KEY(<i>Plectranthus</i> AND Analgesic effect))	(<i>Plectranthus</i> AND Analgesic effect)
<i>Plectranthus</i> and antinociceptive effect	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND Antinociceptive[All Fields] AND Effect[All Fields]	NR	(TITLE-ABS-KEY(<i>Plectranthus</i> AND Antinociceptive effect))	(<i>Plectranthus</i> AND Antinociceptive effect)
<i>Plectranthus</i> and nociception	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Nociception"[MeSH Terms] OR "Nociception"[All Fields])	NR	(TITLE-ABS-KEY(<i>Plectranthus</i> AND Nociception))	(<i>Plectranthus</i> AND Nociception)

<i>Plectranthus</i> and pain	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Pain"[MeSH Terms] OR "Pain"[All Fields])	NR	(TITLE-ABS-KEY(<i>Plectranthus</i> AND Pain))	(<i>Plectranthus</i> AND Pain)
<i>Plectranthus</i> and pain and ethnopharmacology	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Pain"[MeSH Terms] OR "Pain"[All Fields]) AND ("Ethnopharmacology"[MeSH Terms] OR "Ethnopharmacology"[All Fields])	NR	(TITLE-ABS-KEY(<i>Plectranthus</i> AND Pain AND Ethnopharmacology))	(<i>Plectranthus</i> AND Pain AND Ethnopharmacology)
<i>Plectranthus</i> and pain and ethnobotanical	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Pain"[MeSH Terms] OR "Pain"[All Fields]) AND Ethnobotanical[All Fields]	NR	Not Applicable	Not Applicable
<i>Plectranthus</i> and pain and medicinal use	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Pain"[MeSH Terms] OR "Pain"[All Fields]) AND Medicinal[All Fields]	NR	(TITLE-ABS-KEY(<i>Plectranthus</i> AND Pain AND Medicinal use))	(<i>Plectranthus</i> AND Pain AND Medicinal use)
<i>Plectranthus</i> AND INFLAMMATION				
Combination	Translation of the search			
	PubMed	ScienceDirect	Scopus	Web of Science
<i>Plectranthus</i> and anti-inflammatory effect	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Anti-inflammatory agents"[All Fields] OR "Anti-inflammatory agents"[MeSH Terms] OR ("Anti-inflammatory"[All Fields] AND "Agents"[All Fields]) OR "Anti-inflammatory agents"[All Fields] OR ("Anti"[All Fields] AND "Inflammatory"[All Fields]) OR "Antiinflammatory"[All Fields]) AND Effect[All Fields]	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Anti-inflammatory effect)	(<i>Plectranthus</i> AND Anti-inflammatory effect)
<i>Plectranthus</i> and anti-inflammatory	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Anti-inflammatory agents"[All Fields] OR "Anti-inflammatory agents"[MeSH Terms] OR ("Anti-inflammatory"[All Fields] AND "Agents"[All Fields]) OR "Anti-inflammatory agents"[All Fields] OR ("Anti"[All Fields] AND "Inflammatory"[All Fields]) OR "Antiinflammatory"[All Fields])	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Anti-inflammatory)	<i>Plectranthus</i> AND Anti-inflammatory)
<i>Plectranthus</i> and anti-inflammatory and ethnopharmacology	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND ("Anti-inflammatory agents"[All Fields] OR "Anti-inflammatory agents"[MeSH Terms] OR ("Anti-inflammatory"[All Fields] AND	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Anti-inflammatory AND Ethnopharmacology)	Not Applicable

	"Agents"[All Fields]) OR "Anti-inflammatory agents"[All Fields] OR ("Anti"[All Fields] AND "Inflammatory"[All Fields]) OR "Antiinflammatory"[All Fields]) AND ("Ethnopharmacology"[MeSH Terms] OR "Ethnopharmacology"[All Fields])			
<i>Plectranthus</i> and inflammatory	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND "Inflammatory" [All Fields]	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Inflammatory)	(<i>Plectranthus</i> AND Inflammatory)
<i>Plectranthus</i> and inflammatory and ethnopharmacology	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND "Inflammatory" [All Fields] AND ("Ethnopharmacology"[MeSH Terms] OR "Ethnopharmacology"[All Fields])	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Inflammatory AND Ethnopharmacology)	Not Applicable
<i>Plectranthus</i> and inflammatory and ethnobotanical	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND "Inflammatory" [All Fields] AND Etnobotanical[All Fields]	NR	Not Applicable	Not Applicable
<i>Plectranthus</i> and inflammatory and medicinal use	("Plectranthus"[MeSH Terms] OR "Plectranthus"[All Fields]) AND "Inflammatory" [All Fields] AND "Medicinal" [All Fields]	NR	TITLE-ABS-KEY(<i>Plectranthus</i> AND Inflammatory AND Medicinal use)	(<i>Plectranthus</i> AND Inflammatory AND Medicinal use)




NR= not reported.





Table S2. Description of initial and final results by accessed database.



<i>Plectranthus</i> and inflammation								
Descriptors Combination	PubMed		Science Direct		Scopus		Web of Science	
	IR	FR	IR	FR	IR	FR	IR	FR
<i>Plectranthus</i> and anti-inflammatory effect	205	9	240	73	34	14	14	4
<i>Plectranthus</i> and anti-inflammatory	229	14	387	184	49	19	20	5
<i>Plectranthus</i> and anti-inflammatory and ethnopharmacology	29	2	111	41	7	4	0	0
<i>Plectranthus</i> and inflammatory	234	12	212	8	70	29	27	7
<i>Plectranthus</i> and inflammatory and ethnopharmacology	29	1	113	42	5	4	0	0
<i>Plectranthus</i> and inflammatory and etnobotanical	2	2	0	0	2	1	0	0
<i>Plectranthus</i> and inflammatory and medicinal use	185	10	336	166	41	25	18	6
Total by data bases	913	$\frac{50}{8^*}$	1399	$\frac{514}{9^*}$	208	$\frac{96}{21^*}$	79	$\frac{22}{7^*}$
Total	IR= 2.599				PR= 682; FR= 45*			
<i>Plectranthus</i> and pain/nociception								
Descriptors Combination	PubMed		Science Direct		Scopus		Web of Science	
	IR	FR	IR	FR	IR	FR	IR	FR
<i>Plectranthus</i> and analgesic effect	78	9	154	75	8	4	5	1
<i>Plectranthus</i> and antinociceptive effect	41	3	56	27	2	1	1	0
<i>Plectranthus</i> and nociception	12	2	11	7	19	18	1	1

<i>Plectranthus</i> and pain	120	9	278	125	206	197	3	2
<i>Plectranthus</i> and pain and ethnopharmacology	31	4	136	48	147	135	1	1
<i>Plectranthus</i> and pain and ethnobotanical	77	8	55	52	57	50	0	0
<i>Plectranthus</i> and pain and medicinal use	105	8	256	109	188	167	1	1
Total by data base	464	$\frac{43}{10^*}$	946	$\frac{443}{13^*}$	627	$\frac{472}{10^*}$	12	$\frac{6}{2^*}$
Total	IR= 2.049			PR= 964; FR= 35*				

IR= Initial Results. PR= Partial Result (after inclusion and exclusion criteria).FR= Final Result (selected after exclusion of duplicated articles).

Species		
<i>Plectranthus amboinicus</i> (Lour.) Spreng.		
<i>Plectranthus barbatus</i> (Andrews) Benth.		
<i>Plectranthus neochilus</i> Schtr.		

Species	
<i>Plectranthus coleoides</i> Benth.	 A close-up photograph of a Plectranthus coleoides plant. The leaves are green with prominent white variegation along the edges. Small, light purple flowers are visible on a stem extending from the foliage.
<i>Plectranthus kilimandschari</i> Gurke	 A close-up photograph of a Plectranthus kilimandschari plant. The leaves are a vibrant, solid orange-red color with a distinctively textured, almost wrinkled surface.
<i>Plectranthus lanuginosus</i>	 A close-up photograph of a Plectranthus lanuginosus plant. The leaves are bright green, ovate, and have a very fuzzy, lanuginous texture. The edges of the leaves are slightly wavy.
<i>Plectranthus ornatus</i> Codd.	 A photograph of a Plectranthus ornatus plant. It shows a dense, low-growing bush of green leaves. A tall, upright stem with small, light purple flowers is visible on the left side of the frame.

Species	
<i>Plectranthus rugosus</i>	
<i>Plectranthus scutellarioides</i> (L.) R. Br.	
<i>Plectranthus zeylanicus</i> Benth.	