

**Review Article****A comprehensive list of plants used for anti-inflammatory action**

Brijesh kumar Duvey\*, Yogita Chowdhary

*Brahmanand Group of Institutions, Bulandshahr, UP, India***ARTICLE INFO:****Article history:**

Received: 3 May 2016

Received in revised form:

20 May 2016

Accepted: 22 May 2016

Available online: 30 June 2016

**Keywords:**

Herbal medicine,

Inflammation,

Plant

**ABSTRACT**

Herbal medicines are important remedies in therapeutics for treatment of various diseases in India. The traditional health care system of India is Ayurveda [Ayus – Life, Veda – Knowledge, meaning – science of life] and it is one of the oldest therapeutic systems. India, with its great biodiversity, has a tremendous potential and advantage in the emerging field of herbal medicines. Medicinal plants as a group comprise approximately 7500 species and include representatives of about 17,000 species of higher flowering plants. Use of natural product in the developments of drugs used in contemporary medicine is unsurpassed even when synthetic chemistry has been developed beyond expectations. Unlike synthetic substances the natural drug dose not gives symptomatic relief rather it provide complete cure of many diseases. Due to these salient feature herbal drugs has been realized seriously using all around the world. These day plant and their parts are extremely using in the treatment of various diseases such as respiratory problems, gastro-intestinal disorder, cardiac disease metabolic disorder and aging related problem. This review article is an effort of author to provide a comprehensive list of various plant and their parts used for the treatment in various therapeutic system.

**Introduction**

Inflammation [Latin: inflammo – I ignite, set alight] is a part of the complex biological response of vascular tissues to harmful stimuli, such as pathogens, damaged cells, or irritants. Inflammation is a protective attempt by the organism to remove the injurious stimuli and to initiate the healing process. [1] Without inflammation, wounds and infections would never heal. Similarly, progressive destruction of the tissue would compromise the survival of the organism. However, chronic inflammation can also lead to a host of

diseases, such as rheumatoid arthritis, hey fever, atherosclerosis etc. and even cancer. Inflammation is of two types *acute* or *chronic*. Prolonged inflammation, known as *chronic inflammation*, leads to a progressive shift in the type of cells present at the site of inflammation and is characterized by simultaneous destruction and healing of the tissue from the inflammatory process. There is five cardinal sign of inflammation i.e. redness, swelling, heat, pain and loss of function.[8]

**Table 1: Comparison between acute and chronic inflammation [13-17]**

Factors	Acute	Chronic
<b>Causative agent</b>	Pathogens, injured tissues	Persistent acute inflammation due to non-degradable pathogens, persistent foreign bodies, or autoimmune reactions
<b>Major cells involved</b>	Neutrophils [primarily], eosinophils and basophils (response to helminth worms and parasites), mononuclear cells (monocytes, macrophages)	Mononuclear cells [monocytes, macrophages, lymphocytes, plasma cells], fibroblasts
<b>Primary mediators</b>	Vasoactive amines, eicosanoids	IFN- $\gamma$ and other cytokines, growth factors, reactive oxygen species, hydrolytic enzymes
<b>Onset</b>	Immediate	Delayed
<b>Duration</b>	Few days	Up to many months, or years
<b>Outcomes</b>	Resolution, abscess formation, chronic inflammation	Tissue destruction, fibrosis, necrosis

\*Corresponding Author: Brijesh Kumar Duvey, Bhramanand Group of Institutions, Bulandshahr, U.P., India.

**Table 2: List of various plant and their parts used as anti-inflammatory**

Sr. No.	Botanical name	Part used	Use
1.	<i>Trachyspermum roxburghianum</i>	Root and Seeds	Anti-inflammatory [3]
2.	<i>Hemidesmus indicus</i>	Roots	Anti-inflammatory [3,8]
3.	<i>Alangium lamarckii</i>	Root, bark, leaves, seeds	Anti-inflammatory [4]
4.	<i>Achyranthes aspera</i>	Whole plant, Root ,seeds	Rheumatism[4]
5.	<i>Clitoria ternatea</i>	Whole plant, Root, Seeds	Inflammation[5]
6.	<i>Cassia fistula</i>	Bark ,Fruit, Pulp, Leaves, Pods	Anti-arthritis[6]
7.	<i>Sapindus mukorossi</i>	Fruit, leaf	Anti-inflammatory[7]
8.	<i>Withania somnifera</i>	Root, Leaf, Fruits, Seeds	Anti-inflammatory [8-17]
9.	<i>Thevetia neriifolia</i>	Milky Juice, seeds, Kernel	Anti-Rheumatism [9-19]
10.	<i>Semacarpus anacardium</i>	Nut, Bark	Rheumatism [20- 29]
11.	<i>Cannabis sativus</i>	Plant, resin	Anti-inflammatory [28]
12.	<i>Oxalis carinulata</i>	Leaves, Whole Plant	Anti-inflammatory [30,31]
13.	<i>Baliospermum montanum</i>	Seed, root, leaves	Rheumatism[32-34]
14.	<i>Berberis aristata</i>	Fruit, root bark, stem and wood	Anti-inflammatory [35-37]
15.	<i>Ricinus communis</i>	Seeds, leaves	Anti-inflammatory[38-41]
16.	<i>Aloe barbedensis</i>	Whole plant, leaves, pulp, root	Anti-inflammatory [42]
17.	<i>Tinospora cordifolia</i>	Stem juice, fresh plant	Anti-inflammatory [ 43- 47]
18.	<i>Commiphora wightii</i>	Gum resin	Anti-inflammatory [48]
19.	<i>Curcuma longa</i>	Rhizome, oil	Anti-inflammatory and Antiarthritic [49-54]
20.	<i>Iris florentina</i>	Rhizome and extracts	Anti-inflammatory [55]
21.	<i>Nardostachys grandiflora</i>	Root, oil	Antiarthritic [56]
22.	<i>Celastrus paniculata</i>	Bark,seed oil,whole plant	Anti-inflammatory [57, 58]
23.	<i>Ficus hispida</i>	Fruit,seed,bark,whole plant	Anti-inflammatory [59]
24.	<i>Cardiospermum halicacabum</i>	Entire herb,root,leaves,seeds	Anti-inflammatory [60]
25.	<i>Nelumbo nucifera</i>	Flower,seed,filament,root,leaves	Anti-inflammatory [61]
26.	<i>Mallotus phillipensis</i>	Fruit	Anti-inflammatory [20]
27.	<i>Bauhinia variegata</i>	Bark,root,gum,leaves,seed,flower	Anti-inflammatory [61]
28.	<i>Solanum surratens</i>	Root,fruit,leaves,flower,flowerbud,stem,whole plant	Anti-rheumatic [62, 63]
29.	<i>Mucuna pruriens</i>	Seed, Pod, root	Anti-inflammatory [64]
30.	<i>Pogamia pinnata</i>	Seed, oil from seed, root, bark	Anti-inflammatory [29]
31.	<i>Nerium indicum</i>	Whole plant, root , leaves	Anti-inflammatory [65]
32.	<i>Picrorhia kurroa</i>	Root, rhizome	Anti-inflammatory [66, 67]
33.	<i>Swertia chirayita</i>	Root , whole plant	Anti-inflammatory [68]
34.	<i>Hygrophila auriculata</i>	Whole plant , root ,seed, leaves	Anti-inflammatory [69]
35.	<i>Blumea lacera</i>	Juice of leaves, root , essential oil	Anti-inflammatory [70]
36.	<i>Benincasa hispida</i>	Fruit , seed	Anti-inflammatory [71]
37.	<i>Abelmoschus moschatus</i>	Seed	Osteoarthritis [72]
38.	<i>Allium sativum</i>	Bulb	Anti-inflammatory [73-75]
39.	<i>Symplocos cochinchinensis</i>	Whole plant, Stem bark	Anti-inflammatory [76]
40.	<i>Catunaregam spinosa</i>	Fruit, seed, bark	Anti-inflammatory [77]
41.	<i>Lawsonia inermis</i>	Bark, leaf, seed, flower	Anti-inflammatory [78]
42.	<i>Rubia cordifolia</i>	Root, stem, whole plant	Anti-inflammatory [79]
43.	<i>Cyperus rotundus</i>	Tubers	Anti-inflammatory [80]
44.	<i>Enicostemma hyssopifolium</i>	Whole plant	Anti-inflammatory [80]
45.	<i>Melia azadirachta</i>	Bark, Root bark, young fruit, leaves, seed , berries	Rheumatism [81, 82]
46.	<i>Vitex negundo</i>	Leaves ,roots, fruits	Anti-inflammatory [83]
47.	<i>Panax ginseng</i>	Whole plant, leaves ,root	Anti-inflammatory [84]
48.	<i>Bergenia ligulata</i>	Whole plant , root, rhizome	Anti-inflammatory [85, 86]
49.	<i>Piper longum</i>	Dried unripe fruit, root	Anti-inflammatory [87]
50.	<i>Sida rhombifolia</i>	Plant, stem, leaves, root	Anti-inflammatory [88, 89]
51.	<i>Boerhavia diffusa</i>	Root, leaf, flower	Anti-inflammatory [90- 95]
52.	<i>Inula racemosa</i>	Root, whole plant	Anti-inflammatory [96]
53.	<i>Caesalpinia crista</i>	Seed, leaves, bark	Anti-inflammatory [97- 99]
54.	<i>Pterocarpus santalinus</i>	Wood, heartwood, bark, seed	Anti-inflammatory [100, 101]
55.	<i>Acampe papillosa</i>	Root, whole plant	Anti-inflammatory [102]
56.	<i>Tectona grandis</i>	Wood, bark, oil of seeds	Anti-inflammatory [102]
57.	<i>Desmodium gangeticum</i>	Root, seed	Anti-inflammatory [103]
58.	<i>Euphorbia dracunculoides</i>	Fruit, whole plant	Anti-inflammatory and antiarthritic [104]

59.	<i>Tephrosia purpurea</i>	Whole plant, root, fresh bark, seeds	Anti-inflammatory [105-107]
60.	<i>Blepharis edulis</i>	Seed	Anti-inflammatory [108]
61.	<i>Altingia excels</i>	Whole plant, resin	Anti-inflammatory [109]
62.	<i>Moringa oleifera</i>	Root, root bark, fruit, flower, seeds	Anti-inflammatory [110]
63.	<i>Strobilanthes heyneanus</i>	Leaf, roots	Anti-inflammatory [111-114]
64.	<i>Gardenia latifolia</i>	Root, bark, Fruit	
65.	<i>Diospyros cordifolia</i>	Fruit, stem –bark, oil of seed	Anti-inflammatory [115]
66.	<i>Operculina turpethum</i>	Root, root bark, stem	Anti-inflammatory [116]
67.	<i>Ocimum sanctum</i>	Leaves, seed, roots	Anti-inflammatory [117]
68.	<i>Pergularia darmlia</i>	Whole plant, leaves, root bark	Anti-inflammatory [79]
69.	<i>Nymphaea stellata</i>	Root, flower, fruit, seed	Anti-inflammatory [118, 119]
70.	<i>Crataeva nurvala</i>	Bark, root bark, leaves	Anti-inflammatory [120 -122]
71.	<i>Adhatoda vasica</i>	Leaf, flower, root	Rheumatism [123]
72.	<i>Embelia ribes</i>	Fruit, seed, root	Anti-inflammatory [124]
73.	<i>Pueraria tuberosa</i>	Root, tuber	Anti-inflammatory and Anti-rheumatic [125, 126]
74.	<i>Argyrea speciosa</i>	Root, leaves, whole plant	Anti-inflammatory [127]
75.	<i>Calotropis gigantea</i>	Whole plant, root, root bark, leaf, latex, flower	Anti-inflammatory [128]
76.	<i>Achyranthes aspera</i>	Whole plant	Anti-inflammatory [129]
77.	<i>Pterocarpus marsupium</i>	Leaves, heartwood, flower, gum	Anti-inflammatory [130]
78.	<i>Clerodendrum serratum</i>	Root, leaf	Anti-inflammatory [131]
79.	<i>Bacopa monnieri</i>	Whole plant	Anti-inflammatory [132]
80.	<i>Plumbago zeylanica</i>	Root, root bark	Anti-inflammatory [133]
81.	<i>Berberis aristata</i>	Bark, fruit, stem, wood	Anti-inflammatory [134]
82.	<i>Anogeissus latifolia</i>	Root, bark, fruit, gum	Anti-inflammatory [135]
83.	<i>Curcuma longa</i>	Rhizome	Anti-inflammatory [136]
84.	<i>Mucuna pruriens</i>	Root, leaf, seed, hair	Anti-inflammatory [137]
85.	<i>Acacia catechu</i>	Bark, heartwood	Anti-inflammatory [138]
86.	<i>Aloe vera</i>	Leaf, leaf juice	Anti-inflammatory [139]
87.	<i>Caesalpinia bonduc</i>	Root bark, leaf, seed	Anti-inflammatory [140]
88.	<i>Lawsonia inermis</i>	Root, leaf, flower seed	Anti-inflammatory [141]
89.	<i>Centella asiatica</i>	Whole plant	Anti-inflammatory [142]
90.	<i>Mesua ferrea</i>	Flower, oil, bark, leaf, bud	Anti-inflammatory [143]
91.	<i>Azadirachta indica</i>	Bark, leaf, flower, seed oil	Anti-inflammatory [144]
92.	<i>Bergenia ciliata</i>	Rhizome, leaf	Anti-inflammatory [145]
93.	<i>Boerhavia diffusa</i>	Whole plant, root	Anti-inflammatory [146]
94.	<i>Hemidesmus indicus</i>	Root, leaf, stem	Anti-inflammatory [147]
95.	<i>Boswellia serrata</i>	Bark, Gum-resin	Anti-inflammatory [148]
96.	<i>Moringa oleifera</i>	Root, bark, leaf, seed	Anti-inflammatory [149]
97.	<i>Albizia lebeck</i>	Bark, flower, seed, leaf	Anti-inflammatory [150]
98.	<i>Operculina turpethum</i>	Root	Anti-inflammatory [151]
99.	<i>Acorus calamus</i>	Rhizome	Anti-inflammatory [152]
100.	<i>Mangifera indica</i>	Root, bark, leaf, fruit, seed kernel	Anti-inflammatory [153]
101.	<i>Cassia fistula</i>	Root bark, leaf, fruit, flower, fruit pulp	Anti-inflammatory [154]
102.	<i>Psoralea corylifolia</i>	Seed, seed, oil	Anti-inflammatory [154]
103.	<i>Eclipta alba</i>	Whole plant, seed	Anti-inflammatory [156]
104.	<i>Holoptelea integrifolia</i>	Bark, leaf, seed	Anti-inflammatory [150]
105.	<i>Fagonia cretica</i>	Whole plant	Anti-inflammatory [151]
106.	<i>Commiphora wightii</i>	Gum	Anti-inflammatory [153]
107.	<i>Aristolochia indica</i>	Root, leaf, seed	Anti-inflammatory [152]
108.	<i>Phyla nodiflora</i>	Whole plant, leaf	Anti-inflammatory [153]
109.	<i>Celastrus paniculatus</i>	Root, bark, leaf, seed, seed oil	Anti-inflammatory [154]
110.	<i>Pongamia pinnata</i>	Root, Stem bark, leaf, flower, seed, seed oil	Anti-inflammatory [154]
111.	<i>Nerium indicum</i>	Root, root bark, leaf	Anti-inflammatory [155]
112.	<i>Gossypium herbaceum</i>	Root, Bark, flower, seed	Anti-inflammatory [155]
113.	<i>Cryptolepis buchnani</i>	Root, whole plant	Anti-inflammatory [156]
114.	<i>Catunaregam spinosa</i>	Bark, fruit	Anti-inflammatory [157]
115.	<i>Cymbopogon martinii</i>	Stem, leaf, flower, oil	Anti-inflammatory [157]
116.	<i>Desmodium gangeticum</i>	Root, whole plant	Anti-inflammatory [157]
117.	<i>Dalbergia sisoo</i>	Root, bark, heartwood, leaf	Anti-inflammatory [158]
118.	<i>Oroxylum indicum</i>	Root, root bark, leaf, fruit, seed	Anti-inflammatory [158]
119.	<i>Ocimum sanctum</i>	Whole plant, root leaf, seed	Anti-inflammatory [159]
120.	<i>Cratava nurvala</i>	Stem bark, leaf	Anti-inflammatory [159]
121.	<i>Sesbania grandiflora</i>	Root, Bark, Flower, Fruit, Leaf	Anti-inflammatory [160]
122.	<i>Phyllanthus emblica</i>	Root Bark, Stem bark, Leaf, Fruit, Seed	Anti-inflammatory [161]

123.	<i>Withania somnifera</i>	Root, Leaf, Seed	Anti-inflammatory [163]
124.	<i>Tinospora cordifolia</i>	Root, Stem, Leaf	Anti-inflammatory [163]
125.	<i>Terminalia arjuna</i>	Fruit	Anti-inflammatory [164]
126.	<i>Syzygium cumini</i>	Bark, Fruit, Seed, Leaf	Anti-inflammatory [164]
127.	<i>Jasminum officinale</i>	Root, Leaf, Flower	Anti-inflammatory [165]
128.	<i>Solanum nigrum</i>	Whole Plant, Fruit	Anti-inflammatory [166]
129.	<i>Pandanus fascicularis</i>	Root, Leaf, Flower, Fruit	Anti-inflammatory [168]
130.	<i>Portulaca oleracea</i>	Stem, leaf, Seed	Anti-inflammatory [167]
131.	<i>Hiptage benghalensis</i>	Bark, Leaf, Flower, Seed	Anti-inflammatory [168]
132.	<i>Cyperus rotundus</i>	Tuber	Anti-inflammatory [169]
133.	<i>Vitex negundo</i>	Root, Bark, Leaf, Flower, Seed	Anti-inflammatory [170]
134.	<i>Piper longum</i>	Fruit, Root	Anti-inflammatory [171]
135.	<i>Paederia foetii</i>	Root, Stem, Leaf	Anti-inflammatory [171]
136.	<i>Ficus racemosa</i>	Stem Bark, Root, Fruit, Leaf, Latex	Anti-inflammatory [172]

## Reference

- Karawya, M.S. et.al.: Screening of diphenylamine as an antihyperglycaemic agent in certain edible plant organs, *Acta Hung.* 2014;56(2):55-58
- ICMR, 1968-69 unpublished data of Composite Drug Research Scheme.
- Gupta, S.S. et al.: Cardiac Stimulant activity of the saponin of *Achyranthes aspera* Linn. *Indian J. Med. Res.* 1972;60:462
- Annual Reports, P.R.U., H.I., Bombay.
- Chopra, R.N. et.al.: Glossary of Indian Medicinal Plants, CSIR, New Delhi 54, 1956.
- Rainford, K. D. and White house, M.W.: Concerning the merits of Cu-aspirin as potential anti-inflammatory agents, *J. Pharm. Pharmacol.* 1976;286:83-86
- Anabalgan, K. and Sique, J.: Influence of Indian medicine on acute-phase reaction in inflammation, *Indian J. Exptl. Biol.* 1981; (3):245-49
- Anbalagan, K and Sidique, J.; *Withania somnifera*, a rejuvenating herbal drug which controls alpha-2-macroglobulin synthesis during inflammation, *Int. J. Crude Drug. Res.* 1985;23(4): 177-83
- Annual Reports, P.R.U., A. I. I. M. S., New-Delhi
- Lakkar, S.: Clinical trial of Rumalaya in osteoarthritis of knee, *Med. & Surg.* 1981; 21(8):21-23
- Sharma, A. K and Singh, R. H.: Screening of anti-inflammatory activity of certain indigenous drugs on carrageenin induced paw oedema in rats, *Bull. Medico-Ethno-Bot. Res.* 1980;1(2):262-7
- Singh, N. et al.: Pharmacological investigation of some indigenous drugs of plant origin for evaluation of their anti-pyretic, analgesic, anti-inflammatory activities, *J. Res Indian Med. Yoga & Homoeo.* 1978;13(2):58-62
- Singh, S. P.: Search for effective anti-fertility agents from indigenous plant sources. Thesis for M.D. Pharmacology, K. G. Med. Coll. Lucknow, 1977.
- Singh, S. P. et.al: Anti-fertility Studies of some indigenous plants, *Indian. J. Pharmacol.* 1978;10:88
- Sudhir, S .et al.: Pharmacological studies on leaves of *Withania Somnifera*, *Planta Med.* No.1, 1986: 61-63
- Thejomoorthy, P. et.al: Pharmacological evaluation of R-Compound and Anukkura Choornum for anti-inflammatory activity, *Indian Vet.* 1986;J. 63(7):548-552
- Hemadri, K.: Rheumatism-Tribal medicine, *Ancient Sciences Life* .1981;2:117-20
- Herrera, C. L. et.al.: Phillipine plants as possible sources of anti-fertility agents. *Phillip. J. Sci.* 1984; 113 (1-2):91-129
- Annual Reports, P. R. U., Varnasi.
- Ghosh, D., et.al. Certain pharmacological studies with S.KX with special reference to its toxicity, *J. Res. Ayur. Siddha.* 1981; 2 (2): 150
- Ghosh, D. et.al.: Pharmacological Investigation of Rasagandhi Mezhu: A siddha drug, *J. Res. Ayur. Siddha.* 1982; 3(2):33-52
- Hemadri, K. : Rheumatism: Tribal medicine, *Ancient Sci. Life* 1981:117-20
- Mazumdar, A.: Selection of drugs for trial in Rheumatoid Arthritis, *Rheumatism* 14 (2):53-76, 1979.
- Satyavati, G. V. et.al.: Experimental and clinical evaluation of *Semecarpus anacardium* for anti-inflammatory activity. Abstract of paper read at the Ist Congress of the South East Asia and Pacific league against Rheumatism, Bombay, 90. 1968.
- Satyavati, G.V. et.al.: Anti-inflammatory activity of *Semecarpus anacardium* Linn. A preliminary study, *Ind. J. Physiol. and Pharmacol.* 13 (1):37
- Sharma, A. K. and Singh, R. H.: Screening of anti-inflammatory activity of certain indigenous drugs on carrageenin induced paw oedema in rats, *Bull. Medico-Ethno Bot. Res.* 1980; 1(2):262
- Shukla, K. P. et.al.: Evaluation of *Rasnadi Guggulu* compound in the treatment of Rheumatoid arthritis, *Rheumatism*, 1985; 21 (1):16-25
- Tripathi, S. N. et.al. : Role of *Semecarpus anacardium* in the management of Rheumatoid arthritis, *J. Res. Indian Med. Yoga and Homoeo.* 1979;14(2):33-34
- Annual Report, P. R. U., H. I., Bombay.
- Gaitonde, B. B. et.al.: Anti-inflammatory, analgesic and antipyretic activity of an indigenous medicinal plant, *J. Res. Indian Med. Yoga & Homoeo.* 1977;12(2):12
- Chopra, R. N. et.al.: Glossary of Indian Medicinal Plants, CSIR, New Delhi, 32, 1956.



32. Hemadri , K.: Rheumatism, tribal medicine, Ancient Sci. Life.1981; 1(2):117-20
33. Islam, M. Certain poisonous plants of the North Eastern Region, India, J. Econ. Taxon. Bot. 1986;8(1):51-63
34. Akhter, M. H. et.al.: Anti-inflammatory effect of *Berberine* in rats injected locally with cholera toxin, Indian J.Med.Res.1977;65(1):133-141
35. Halder, R.V. et.al.: Pharmacological investigations on *Berberine* hydrochloride, Indian J. Pharmac. 2:26,1970.
36. Singh, R. H.: Critical analysis of the studies done on indigenous anti-inflammatory and anti-arthritis drugs during post-independence era, Rheumatism.1978;3(3):99-108
37. Annual Reports, P. R. U., Calcutta.
38. Annual Reports, P. R. U., Jaipur.
39. Dhar, M. L. et al.: Screening of Indian plants for biological activity, Indian J. Exptl. Biol.1968; 6(4):232-47
40. Sharma,V. N. et.al.: Screening of some plant extracts for anti-viral properties, Technology(sindri).1972;9(4) :415-16
41. Shinpo, M. et.al.: Anti-inflammatory compositions containing *Aloe* extracts and steroids, Japan Kokai 78, 49, 019 (Ch.A 61K35/78) 27 May, 1978 (Chem.Abstr.89:95018m, 1978).
42. Annual Reports, P. R. U., Raipur.
43. Gulati, O. D. and Pandey, D. C.: Anti-inflammatory activity of *T. cordifolia*, Rheumatism.1982; 17(2):76-83
44. Pendse, V. K. et.al: An experimental study of water extract *T. cordifolia*, J. Res. Indian Med. Yoga and Homoeo.1981; 13 (1):73
45. Shal,D. S. and Pandya, D. C: Preliminary study about the anti-inflammatory activity of *T. cordifolia*, J. Res. Indian Med. Yoga and Homoeo.1976;11(4):77-83
46. Sharma, A. K. and Singh, R. H.: Screening of anti-inflammatory activity of certain indigenous drugs on Carrageenin induced hind paw oedema I rats, Bull. Medico-Ethno. Bot. Res. 1980;1(2):262-71
47. Arora, R. B. et.al.: Isolation of crystalline steroid compound from *C. mukul* and its anti-inflammatory activity, Indian J. Exptl. Biol. 9(3):403-404,1977.
48. Annual Reports, P. R. U., Medical College ,Rewa.
49. Chopra, R. N. et.al.: Glossary of Indian Medicinal Plants ,CSIR, New Delhi,85,1956.
50. Deodhar, S. D. et.al.: Preliminary study on Antirheumatic activity of curcumin, Indian J.Med.Res.1980;71:632-634
51. Dinesh Chandra and Gupta, S. S.: Anti-inflammatory and anti-arthritis activity of volatile oil of *Curcuma longa*, Indian J. Med. Res.1972; 60(1):138-142
52. Rao, T. S. et al.:Anti-inflammtory activity of Curcumin analogues, Indian J.Med.Res.1982;75:574-578
53. Veluchamy, G. et. al.: Role of Siddha medicine in the treatment of rheumatoid arthritis (Santhi Vatha Soolai), Rheumatism 1982;17(2):68-75
54. Annual Report, P. R. U., Bombay.
55. Madan, B. R and Arora, R. B.: Antiarrhythmic activity of *Nardostachys jatamansi*, Proc.43<sup>rd</sup> Indian Sci. Congr. Pt-III(abstract),347,1956
56. Annual Report, P. R. U, Medical College, Jodhpur.
57. Singh, N. and kohli, R. P., Pharmacological Studies on *Celastrus paniculatus*, J. Res. Indian Med.1974;9:1
58. Annual Reports, P.R.U., H. I., Bombay.
59. Annual Reports, P. R. U., Medical college, Trivandrum
60. Annual Reports, P.R.U., G. M. C., Bombay.
61. Chopra, R. N .et. al Glossary of Indian Medicinal Plants ,CSIR, New Delhi,230,1956.
62. Shukla, S. P.: Indigenous drugs and their utilization by human beings, Nagarjun 29(5):10-11, 1986
63. Annual Reports, P. R. U, H. I., Rewa.
64. Singh, N.et.al.: Pharmacological investigations of some indigenous drugs of plant origin for evaluation of their antipyretic, analgesic and anti-inflammatory activities, J. Res .Indian Med. Yoga and Homoeo.1978;13(2):58-62
65. Annual Reports, P. R. U., Lucknow.
66. Pandey, B. L .et. al Anti-inflammatory activity of a Himalayan herb, an experimental study .Indian J.Pharmacol.1983;15-(1):39
67. Annual Reports, P.R.U., Calcutta.
68. Annual Reports, P.R.U., Trivandrum.
69. Nag. B. N. et. al.: Further studies on anti-inflammatory activities of *Blumea lacera* D C. presented at XIII Annual conference of Indian Pharmacological Society (Jammu Tawi).Indian J .Pharmacol.1981;13:73
70. Annual Report, P.R.U., Jodhpur.
71. Lehtar, S.: Clinical trial of *Rumalaya* in osteoarthritis of knee, Med.& Surg.21(8):21-23,1981.
72. Annual Reports, P. R. U., Varanasi.
73. Bhakuni, D. S. et.al.: Screening of Indian plant for biological activity, Pt-III, Indian J. Exptl. Biol. 1971;9:91-10
74. Prasad, D. B. et al.: Screening of Indian plants for anti-fertility activity. Indian J. Med. Res. 54 (6):582-90-1966
75. Frotan M. H. et.al : Pharmacological investigations on  $\alpha$ -spinasterol isolated from *S.spicata*. Indian J. Pharmacol. 1983;15(3):197-201
76. Ghosh, D et.al.: Anti-inflammatory and analgesic activity of oleanolic acid-3- $\beta$ -glucoside(RDG-1) from *R. dumetorum*. Indian J .Pharmacol.1983;15(4):331-42
77. Annual Report, P. R. U., Raipur.
78. Antarkar, D. S. et.al.: Anti-inflammatory activity of *R. cordifolia* in rats. Indian J .Pharmacol. 1983;15 (3):185-88
79. Gupta , M. B .et.al :Anti-inflammatory and antipyretic activities of beta-sitostrol. Planta Med.1980;39(2):157-163
80. Annual Report ,P.R.U., Bombay.
81. Chopra, R. N .et.al :Glossary of Indian Medicinal Plants, CSIR, New Delhi 163,1956.
82. Annual Reports, P.R.U., Calcutta.
83. Otsuka, H.: Studies on anti-inflammatory agents. Parts-IV, Anti-inflammatory constituents from *P. ginseng*, Yakugaku Zasshi, 1981;104(12):113-117
84. Annual Report, P.R.U, Jaipur.
85. Sharma, V. N. et.al.: Some pharmacological observations of *B. ligulata* .J. Res. Indian Med.1975;10(4):7-14

86. Annual Reports, P.R.U., Calcutta.
87. Annual Reports, P.R.U., Rewa.
88. Sharma, A. K. and Singh, R. H.: Screening of anti-inflammatory activity of certain indigenous drugs on carrageenin induced hind paw oedema in rats. *Bull. Medico-Ethno-Bot. Res.* 1980;1(2):262-71
89. Ahmed, K. and Chakrabarty S. : Hypouricaemic factor in *Boerhaavia diffusa* Linn. P. K. J. Biol. Agric. Sci. 1961;4(1):12
90. Annual Reports, P.R.U., G.M. C, Bombay.
91. Chopra, R. N. et.al. :Glossary of Indian Medicinal plants, CSIR, New Delhi 39,1956.
92. Mudgal,V.: Studies on medicinal properties of *Convolvulus pluricaulis* and *Boerhaavia diffusa*. *Planta Med.*1975;28(1):62-68
93. Mudgal, V. et al. : Comparative study on medicinal activity of leaves with flowers and leaves without flowers and leaves of *Shanknapushpi* and *Punarnava*. *J. Res. Indian Med. Yoga and Homeo.* 1977;12 (4):108-111
94. Singh, R.H.: A critical analysis of the studies done on indigenous anti-inflammatory and antiarthritic drugs post-independent era. *Rheumatism* 13(3):99-108,1978
95. Singh, N et al.: Pharmacological studies on *I. racemosa*. *J. Res. Indian Med. Yoga and Homoeo.*1976;11(3):25-32
96. Annual Reports, P.R.U., Calcutta.
97. Chopra, R. N. et al.: Glossary of Indian Medicinal Plants, C S I R, New Delhi, 43,1956.
98. Jetmalini, M. et al.: Anti-inflammatory activity of *C. bonducella*. *Indian J. Pharm.* 28(12):341, 1966
99. Annual Reports, P.R.U., Trivandrum
100. Mehta, C. et.al.: Pharmacological studies on *P. santalinus*. *J. Res. Indian Med. Yoga and Homoeo.*1979;14(1):37-43
101. Annual Reports, P.R.U., Calcutta
102. Ghosh, D. and Anandakumar, A.: Anti-inflammatory and analgesic activities of *Gangetin-a ptrocarpenoid* from *D. gangeticum*. *Indian J. Pharmacol.* 1983;15(4):391-402
103. Singh, R. H.: Critical analysis of the studies done on indigenous anti-inflammatory and antiarthritic drugs during post independence era. *Rheurratism* .1978;13(3):99-10
104. Annual Reports, P.R.U., Bombay
105. Annual Reports, P.R.U., Medical College, Lucknow
106. Singh, N et al: Pharmacological investigations of some indigenous drugs of plant origin for evaluation of their antipyretic, analgesic and anti-inflammatory activities .*J. Res. Indian. Med. Yoga and Homoeo.* 13(2):58-62,1978
107. Annual Reports, P.R.U., Rewa
108. Singh, N. et.al.: Antistress plant as antirheumatic agents. *Proc. 5<sup>th</sup> SEAPAL Cong. of Pharmacology, Bangkok*, p.15 abst225,1984
109. Singh, S. D. et.al. :Anti-inflammatory activity of *Moringa pterygosperma* and its influence on hypophysioadrenocortical axis in albino rats. *Abstr. Confrence Indian Pharmacol Soc.,Hyderabad*,10-12 th March,1972. *Indian J. Pharmacol.*4:136,1972
110. Annual Reports, I.I.P, Cheruthuruthy
111. Ramachandran, Nair. P.: Personal Communication ,1982
112. Ravishankar, B.: Pharmacological studies of *Strobilanthes heyneanus* Nees (leaves) (Abstract). *Indian J. Pharm.* 16(1):46, 1984
113. Ravishankar, B. :Unpublished observations,1984
114. Kohli, R. P. et.al.: Studies on the anti-inflammatory, antipyretic and analgesic activities of *Diospyros cordifolia*. *Indian J. Pharmac.*1972;4:109
115. Khare, A. K. et.al.: Preliminary study of anti-inflammatory activity of *O. turpethum* (Nishoth). *Indian Drugs.*1981; 19(6):224-28
116. Annual Report, P.R.U., Lucknow
117. Annual Report, P.R.U., Lucknow
118. Singh, N. et.al.: An experimental evaluation of protective effects of some indigenous drugs in carbon tetrachloride induced hepatotoxicity in mice and rats. *Quart J. Crude Drug Res.*1978;16:8
119. Annual Report, P.R.U. ,Institute of medical Sciences, Varanasi
120. Das, P. K. et.al. :Anti-inflammatory and antiarthritic activity of *C. nurvala*. *J. Res. Indian. Med.*1974;9(3):9-16
121. Lal, Ramji et.al.: Preliminary studies on the anti-inflammatory antiarthritic activity of *Crataeva nurvala*. *Indian J. Pharmacol.*1972;4:122-2
122. Chopra, R. N. et.al.: Glossary of Indian Medicinal Plants, CSIR, New-Delhi, 7,1956
123. Gupta, O. P. et.al.: Some pharmacological investigations of Embelin and its semisynthetic derivatives. *Indian J. Physiol. Pharmacol.*21(1):31-39,1977
124. Chopra, R. N. et al.: Glossary of Indian Medicinal Plants, CSIR, New Delhi, 207,1956
125. Hemadri, K. : Rheumatism :Tribal medicine. *Ancient Sci. Life.*1(2):117-20,1981
126. Amrutia Jay N, Jagir patel, Moses Rajan Semuel and Shabaraya A. R., Antiinflammatory activity of fractionated extracts of *Achyranthes aspera* Linn leaves, *Journal of Applied Pharmaceutical Science* 01 (08); 2011: 188-190
127. Richa Tyagi, Ekta Menghani, A Review on *Plumabgo zeylanica*: A Compelling Herb, *International Journal of Pharma Sciences and Research*2012:12
128. Komal Sharma, Ranjan Bairwa, Neelam Chauhan, Birendra Srivastava, Neeraj Kumar Saini, *Berberis aristata* : A Review, *IJRAP* 2011, 2(2): 383-388
129. Rodrigo Rodrigues e Lacerda, Italo Cordeiro Moreira, Jader Sabino Jaco do Nascimento, Lectin isolated from Brazilian seeds of *Velvet bean* (*Mucuna pruriens* (L)DC.) presents analgesic, anti-inflammatory and antihemolytic action., *Journal of Medicinal Plants Research* .2015;9(8):231-24
130. Chaudhari S. K, Tripathi Shalini, Singh D. P., Verma N. K., Chandra V., Roshan Asha, An Overview on *Acacia Catechu*, *International Journal of Research and Reviews in Pharmacy and Applied science*, 2(2) 342-346.
131. Beatriz Vfizquez, Guillermo Avila a, David SeguraL Bruno Escalante, Antiinflammatory activity of extracts

- from *Aloe vera* gel, Journal of Ethnopharmacology.1996; 55:69 -75
132. Sandhia. K. G, Bindu. A. R, Anti-inflammatory and *in vitro* anticancer activities of *Caesalpinia bonduc* stem bark, International Journal of Pharma Sciences and Research .2012:12
  133. Abdelmalek Wiem, Aazza Smail, Mnif Wissem, Faleiro M, Miguel M., Antioxidant, anti-inflammatory and anti-acetylcholinesterase activities of leaf, flower and seed aqueous extracts of *Lawsonia inermis* from Tunisia; 2014;6(5):1
  134. Seema Chaitanya Chippada, Sharan Suresh Volluri, Srinivasa Rao Bammidi and Meena Vangalapati, In Vitro Anti Inflammatory Activity Of Methanolic Extract Of Centella Asiaticaby Hrbc Membrane Stabilisation J.Chem.2011;4(2):45
  135. Manoj Kumar Chahar, .Sanjaya Kumar D. S., Geetha L., Lokesh T. and Manohara K. P., *Mesua ferrea* L.: A review of the medical evidence for its phytochemistry and pharmacological actions, African Journal of Pharmacy and Pharmacology.2013;7(6):211-21
  136. Kanagasanthosh K, Shanmugapriyan S., Kavirajan V., Evaluation of acute toxicity, anti-inflammatory activity and phytochemical screening of ethanolic extract of *Azadirachta indica* leaves.. International Journal of Research and Development in Pharmacy and Life Sciences August - September, 2015, Vol. 4, No.5, pp 1737-1742
  137. Alka Mehta, Neeraj K Sethiya, Chetan Mehta, GB Shah., Anti-arthritis activity of roots of *Hemidesmus indicus*. Br. (anantmul) in rats, Asian Pacific Journal of Tropical Medicine (2011)412-420.;
  138. Boswellia Serrata, A Potential Antiinflammatory Agent: An Overview M. Z. SIDDIQU
  139. Gurvinder Pal Singh, Rakesh Garg, Sudeep Bhardwaj, Sandeep Kumar Sharma., Anti-inflammatory evaluation of Leaf extract of *Moringa Oleifera*, Journal of pharmaceutical and scientific Innovation.
  140. Karuppannan Kokila, Subramanian Deepika Priyadarshini and Venugopal Sujatha, Phytopharmacological Properties of *Albizia* Species: A Review, International Journal of Pharmacy and Pharmaceutical Sciences.2013; 5( 3):313
  141. Shankaraiah Pulipaka, Srinivasa Reddy Challa, Ravindra Babu Pingili, Comparative antidiabetic activity of methanolic extract of *Operculina turpethum* stem and root against healthy and streptozotocin induced diabetic rats, International Current Pharmaceutical Journal,2014:12
  142. G. Divya, S. Gajalakshmi, S. Mythili & A. Sathivelu, Pharmacological Activities of *Acorus calamus*: A Review, Asian Journal of Biochemical and Pharmaceutical Research .2011; 4 (1):11
  143. M. R. Islam, M. A. Mannan, M. H. B. Kabir, A. Islam and K. J. Olival, Analgesic, Anti-Inflammatory And Antimicrobial Effects of Ethanol Extracts of Mango Leaves, J. Bangladesh Agril. Univ.2010; 8(2): 239–244
  144. Komal Sharma, Ranjan Bairwa, Neelam Chauhan, Birendra Srivastava, Neeraj Kumar Sain, Review on *Cassia Fistula*, i. IJRAP 2011;2(2) :383-388
  145. Munir Anwar, Mansoor Ahmad, Mehjabeen, Noor Jahan, Omair A. Mohiuddin and Mahmood Qureshi., Phytopharmacological assessment of medicinal properties of *Psoralea corylifolia*, African Journal of Pharmacy and Pharmacology.2011; 5(23): 2627-2638
  146. S. Sureshkumar, T. Sivakumar, M.J.N. Chandrasekar and B. Suresh, Evaluation of Anti –Inflammatory Activity of *Eclipta alba* in Rats; Ancient Science of Life .2005; XXIV (3) :112 -118
  147. Shaukat Khalid, Ghazala H.Rizwan, Hina Yasin, Rehana Perveen, Hina Abrar, Huma Shareef, Kaneez Fatima and Maryam Ahmed, Medicinal Importance of *Holoptelea Integrifolia* (Roxb). Planch – It's Biological and Pharmacological Activities, Nat Prod Chem. Res 2013, 2:1
  148. Veena S .Kasture, Seema A. Gosavi, Jyoti B. Kolpe, Sharaddha G. Deshaoande, Phytochemical and Biological Evaluation of *Fagonia* species: A Review, World Journal of Pharmacy and Pharmaceutical Sciences 2006;3( 5): 1206-1217
  149. Jaim Anurekha , Gupta V B, Hemlata Sati, Bhawana Sati, Dr Sarla Saklani, Prakash Chandra Bhatt, Abhay Prakash Mishra, Chemistry and pharmacological profile of guggul-a Review, Indian Journal of Traditional knowledge .2006;5(4):478-483.
  150. Sujatha Dodoala, Ranganayakulu Diviti, Bharati Koganti and KVSRG Prasad., Effect of ethanolic extract of *Phylla nodiflora* (linn.) Greene against calculi producing died induced Urolithiasis., Indian Journal of Natural Products and Resources. 2010;1(3):314-321.
  151. M. Bhanumathy, S. B. Chandrasekar, Uma Chandur, T. Somasundaram, Phyto-pharmacology of *Celastrus paniculatus*: An Overview, International Journal of Pharmaceutical Sciences and Drug Research 2010; 2(3): 176-181
  152. D. V. Rao and R. A. Sharma: A Review on *Pongamia Pinnata* (L.) Pierre: A Great Versatile Leguminous Plant Savita Sangwan, Nature and Science .2010; 8(11):12
  153. Rahman Khaleequr, Sultana Arshiya, Rahman Shafeequr : Article(Gossypium Herbaceum Linn: An Ethnopharmacological Review, Journal of Pharmaceutical and Scientific Innovation Review
  154. Pisamai Laupattarakasem, Tasanee Wangsrimongkol, Rudee Surarit, Chariya Hahnvanawong : *In vitro* and *in vivo* anti-inflammatory potential of *Cryptolepis buchanani*
  155. Ganjhu R.K., Mudgal, P. P., Arunkumar G : Pharmacological and Phytoconstituent Profile of *Desmodium gangeticum* - An Update, International Journal of Pharmacognosy and Phytochemical Research .2014; 6(3): 643-657
  156. Mamta Bhattacharya, Archana Singh, Chhaya Ramrakhyani : *Dalbergia sissoo* - An Important Medical Plant, Journal of Medicinal Plants Studies .2014;2 (2) : 12

- 157.V. Raghu, Satheesh George, Renju Krdishna V and Sindhu K.K : (Bioactive properties of phenolics present in *Oroxylum indicum* A Review, Journal of Pharmacognosy and Phytochemistry.2012:12
- 158.Kalabharathi , Suresha , Pragathi , Pushpa , Satish : Anti inflammatory activity of fresh Tulsi leaves (*Ocimum sanctum*) in albino rats, International Journal of Pharma and Bio Sciences.2014:19
- 159.Vandana khattar, Ankita wal : Utilities of *Crataeva Nurvala* , International Journal of Pharmacy and Pharmaceutical Sciences.2012;4( 4S):21
- 160.Ashok Kumar, Surendra Gaur, K. K. Jha, Kuldeep Sharma : Comparing of anti-inflammatory activity of *Sesbania grandiflora* and *Acacia nilotica* on Formalin induced paw edema in rats, The journal of Phytopharmacology.2014;1:3.
- 161.Ekta Singh, Sheel Sharma, Ashutosh Pareek, Jaya Dwivedi, Sachdev Yadav and Swapnil Sharma: Phytochemistry, traditional uses and cancer chemopreventive activity of Amla (*Phyllanthus emblica*), The Sustainer, Journal of Applied Pharmaceutical Science 2011;02 (01):176-183
- 162.Qamar Uddin, L. Samiulla, V. K. Singh and S. S. Jamil: Phytochemical and Pharmacological Profile of *Withania somnifera* Dunal: A Review, Journal of Applied Pharmaceutical Science 2012;02 (01): 170-17
- 163.S.S. Singh, S.C Pandey, S. Srivastava, V.S. Gupta, B. Patro, A.C. Ghosh : Educational forum chemistry and medicinal properties of *Tinospora cordifolia* (guduchi), Indian Journal of Pharmacology 2003; 35: 83-91
- 164.Sumita Halder, Nidhi Bharal, Pramod K Mediratta, Inderjeet kaur & Krishna K Sharma : Anti-inflammatory, immunomodulatory and antinoceptive activity of *Terminalia arjuna* Roxb bark powder in mice and rats, Indian Journal of Experimental Biology,2009;47:577-583
- 165.Shahbaa M.Al-Khzraji: Evaluation of Anti-bacterial Activity of *Jasminum Officinale*, Journal of Pharmacy and Biological Sciences (IOSR-JPBS) 10( 1): 121-124.
- 166.F. O. Atanu, U. G. Ebiloma and E. I. Ajayi: A review of the pharmacological aspects of *Solanum nigrum* Linn, Biotechnology and Molecular Biology Review .2011;6(1):001-007
- 167.Udupa A L, Nkemcho Ojeh, Subir Gupta, Ratnakar U P, Vijayalakshmi, Ravindrasingh Rajput, Amruta rajput, Shubha H V, Deepa Benegal, Adarsh Benegal, Sahana Rao,Sanjana Rao, Nisarga. Newsletter update al. Analgesic Activity of *Pandanus fascicularis* Lam. Pharmacologyonline. 2011; 2: 837-840
- 168.Cherukuri Vidyulltha Chowdhary, Anusha Meruva, Naresh K, Ranjith Kumar A, Elumalai: A Review on Phytochemical and Pharmacological Profile of *Portulaca Oleracea* linn. (Purslane), IJRAP.2013 ;4(1):12
- 169.N Singh, B R Pandey, P. Verma, M Bhalla and M Gilca: Phyto-pharmacotherapeutics of *Cyperus rotundus* Lin. (Motha): An Overview, Indian Journal of Natural Products and Resources.2012;3 (4):467-476.
- 170.A. S. Vishwanathan and R. Basavaraju : A Review on *Vitex negundo* L. – A Medicinally Important Plant EJBS 2010;3(1): 30-42
- 171.Chauhan Khushbu, Solanki Roshni, Patel Anar, Macwan: Carol, Patel Mayuree : Phytochemical and Therapeutic Potential of *Piper longum* linn A Review, IJRAP.2016:12
- 172.Jay kambli, Ashwini Patil, Chithrashree, and Rohini Keshava: Phytochemical screening, and evaluation of antibacterial, antioxidant and cytotoxic activity of *ficus racemosalinn*, International Journal of Pharmacy and Pharmaceutical Sciences. 2014; 6( 4):13

Cite this article as: **Brijesh Kumar Duvey, Yogita Chowdhary.** A comprehensive list of plants used for anti-inflammatory action. **Indian J. Pharm. Biol. Res.2016; 4(2):52-59.**

All © 2016 are reserved by Indian Journal of Pharmaceutical and Biological Research

This Journal is licensed under a **Creative Commons Attribution-Non Commercial -Share Alike 3.0 Unported License**. This article can be downloaded to **ANDROID OS** based mobile.