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**Therapeutic potency of a siddha poly herbal formulation
Parangipattai Rasayanam: A Review**

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Abstract

Siddha system was practiced in traditional Tamil speaking people, where they exists beyond the continent also. The people were well in Physical and Mental health with the Siddha Medicines. *Parangipattai Rasayanam*, a siddha sastric poly herbal formulation comprises of 24 ingredients. It is indicated for all kind of skin diseases, various ulcers, venereal diseases, peptic ulcer and arthritis. This review is aimed to bring out scientific evidence for the therapeutic usage of '*Parangipattai Rasayanam*' and focused on the pharmacological activity responsible for the curative nature of the drug. Most of the drugs have Anti-Psoriatic Activity, Immunomodulatory activity, Anti-inflammatory activity hence justifying its usage in above mentioned disease.

Keywords: *Parangipattai Rasayanam*, Anti-Psoriatic, Immunomodulatory, Anti-inflammatory activity.

Introduction

The Siddha system of medicine is one of the Indian systems of medicine. This system of medicine is practiced widely in Tamil Nadu, India. The word 'SIDDHA' comes from the word 'SIDDHI', which means an object to be attained or perfection or heavenly bliss. Siddhars, the founders of this system were popular writers in Tamil.¹The herbal medicines not have more side effects as compared to synthetic drugs. The herbal medicine is easily available and easy to use in treatment. Now a day, herbal resources play a very important role in the management of the skin and inflammatory diseases. Some studies suggest that psoriasis symptoms can be relieved by change in diet and life style. Some herbal alternatives for natural psoriasis treatment and the possible rationale of their anti-psoriatic activity have been discussed below briefly on the basis of reports of some researches². Siddha drugs are known for its safety and efficacy. '*Parangipattai Rasayanam*' is siddha sastric poly herbal formulation which is

mentioned in siddha text book of *Pulippuni vaithiyam-500*. This drug used for all kind of skin diseases, various ulcers, venereal diseases, peptic ulcer and arthritis. The drug review of '*Parangipattai Rasayanam*', a poly herbal formulation gives sound evidence for its therapeutic action mentioned in literatures. The major ingredients of this drug are *Parangipattai*, *Ammukkarakizhangu*, *Chithiramoolam*. This review focused on the pharmacological activities of each ingredient which supports the traditional claim and the literature search is confined to that area. The search was made from the textbooks in the library of National Institute of Siddha, journals, internet databases etc.

Literatures on *Parangipattai Rasayanam*:

The test drug *Parangipattai Rasayanam* is chosen from the sastric text *Pulippuni Vaithiyam 500*. Apart from this there are few preparations by the name

Parangipattai Rasayanam in various texts. The name of the text and drug name is given below

- *Madhusmi Rasayanam*³ in the text *Agasthiyar Rathina Churrukam*
- *Madhusmeega Rasayanam*⁴ in the text *Athma Ratchamirtham Ennum Vaithya Saarasangiragam*.
- *Parangipattai Rasayanam*⁵ in the text *Piramamuniarukadaisuthiram*.
- *Madusmini Rasayanam*⁶ in the text *Maruthuva Aasiriyam*.

Standard operating procedure for preparation of *Parangipattai Rasayanam*:

Purification of raw drugs:

All the raw drugs are purified as per the methods mentioned in Siddha literature.

Preparation of drug "*Parangipattai Rasayanam*":

The mentioned ingredients in table 1 are powdered separately and mixed together. Mentioned quantity of sugar, honey and ghee are then added.

Table-1: Method of preparation of '*Parangipattai Rasayanam*'

S.No	Tamil name	Botanical name/chemical name	Part used	Quantity
1	<i>Sangamver</i>	<i>Azima tetraacantha</i>	Root	35grams.
2	<i>Peesangamver</i>	<i>Clerodendrum inerme</i>	Root	35grams.
3	<i>Chithiramoolaver</i>	<i>Plumbago zeylanica</i>	Root	35grams.
4	<i>Nilappanaikizhangu</i>	<i>Curculigo orchioides</i>	Root tuber	35grams.
5	<i>Ammukkarakizhangu</i>	<i>Withania somnifera</i>	Root tuber	35grams.
6	<i>Kumilamver</i>	<i>Gmelina orborea</i>	Root	35grams.
7	<i>Nilakkumilamver</i>	<i>Gmelina asiatica</i>	Root	35grams.
8	<i>Nerunnjilver</i>	<i>Tribulus terrestris</i>	Root	35grams.
9	<i>Poovarasampattai</i>	<i>Thespesia populnea</i>	Bark	35grams.
10	<i>Sengaththaaripattai</i>	<i>Capparis sepiaria</i>	Bark	17.5grams.
11	<i>Chukku</i>	<i>Zingiber officinale</i>	Rhizome	17.5grams.
12	<i>Thippili</i>	<i>Piper longum</i>	Fruit	17.5grams.
13	<i>Milagu</i>	<i>Piper nigrum</i>	Fruit	17.5grams.
14	<i>Oomam</i>	<i>Carum copticum</i>	Seed	17.5grams.
15	<i>Sirulavangapattai</i>	<i>Cinnamomum verum</i>	Bark	17.5grams.
16	<i>Kosttam</i>	<i>Costus speciosus</i>	Rhizome	17.5grams.
17	<i>Sirunaagappoo</i>	<i>Mesua nagassarium</i>	Inflorescence	17.5grams.
18	<i>Chitarathai</i>	<i>Alpinia galanga</i>	Rhizome	17.5grams.
19	<i>Innji</i>	<i>Zingiber officinale</i>	Rhizome	17.5grams.
20	<i>Lavanga illai</i>	<i>Syzygium aromaticum</i>	Leaves	17.5grams.
21	<i>Parangipattai</i>	<i>Smilax china</i>	Root tuber	175 grams.

Table-2: Method of preparation of '*Parangipattai Rasayanam*'

S.No	Ingredients	Quantity
1	Cane sugar	350 grams.
2	Honey	700 grams.
3	Ghee	700 grams.

Table-3: Information on herbal ingredients as per Siddha the text *Gunapadam Mooligai Vaguppu*.

S.No	Botanical name	Vernacular name				Part used
		Tamil	English	Hindi	Sanskrit	
1	<i>Azima tetracantha</i>	<i>Sangan, Mutsangan</i>	Mistletoe berry thorn	Kalangur-kamai	Kundali	Leaf, Root, Latex
2	<i>Clerodendrum inerme</i>	<i>Peesangam, Isangu, Sangankuppi</i>	Smooth Volkameria	Sang-kuppi, Sang-kupi	Kundal	Leaf, Root
3	<i>Plumbago zeylanica</i>	<i>VenChithiramoolam, Venkodiveli</i>	Ceylon leadwort	Chita, Chitra	Angi-shika, Chitrakavrikshaha	Root
4	<i>Curculigo orchioides</i>	<i>Nilappanai, Musali Thalaithaathu</i>	Black musale	Musalikano	Musale	Root tuber
5	<i>Withania somnifera</i>	<i>Ammukkarakizhangu, Ammikkiri, Asuwaganthi</i>	Winter cherry		Aswagandha	Leaf, Seed, Root tuber
6	<i>Gmelina orborea</i>	<i>Perung Kumil</i>	-	-	-	Fruit, Root
7	<i>Gmelina asiatica</i>	<i>Nilakkumil</i>	-	-	-	Root
8	<i>Tribulus terrestris</i>	<i>Nerunnjil, Thirikandam, Kokandam</i>	Small Caltrops, Land Caltrops	Gakhru	Gokshura	Whole plant
9	<i>Thespesia populnea</i>	<i>Poovarasu, Poolam, Povirasan</i>	The Portia tree, Heart wood	Dumbla	Gardha-bhanda-suparesvaka	Leaf, Flower, Bark, Root
10	<i>Capparis sepiaria</i>	<i>Sengaththari</i>	-	-	-	Bark
11	<i>Zingiber officinale</i>	<i>Chukku, Arukkan, Upakullam, Naagaram</i>	Dried Ginger	Sonth	Nagaram	Rhizome
12	<i>Piper longum</i>	<i>Thippili, Kaaman Kudari, Saram</i>	Long pepper	-	Pippali	Fruit
13	<i>Piper nigrum</i>	<i>Milagu, Kalinai, Kaayam, Kari</i>	Black pepper	Kali-mirch	Maricha	Fruit
14	<i>Carum copticum</i>	<i>Oomam, Asa motham, Theeppiyam</i>	The Bishops weed	Ajvayam	Yavani	Seed
15	<i>Cinnamomum verum</i>	<i>Sirulavangapattai, Karuvappattai</i>	Bark of Cinnamon	-	Twak	Bark
16	<i>Costus speciosus</i>	<i>Kosttam, Kura, Oli</i>	Costus root	-	Koshtam	Rhizome
17	<i>Mesua nagassarium</i>	<i>Sirunaagappoo, Nagam, Nagesaram</i>	Ceylon Iron wood	Nag-kesar	Naga-kesara	Inflorescence
18	<i>Alpinia galanga</i>	<i>Chitarathai</i>	Galangal the lesser	-	Rasna	Root Rhizome
19	<i>Zingiber officinale</i>	<i>Innji, Allam, Aarththaragam</i>	Green Ginger	Adarkh, Sonth	Adrakam	Rhizome
20	<i>Syzygium aromaticum</i>	<i>Lavangam, Anjugam, Urkadam</i>	Cloves, clove tree	Long	Lavangam	Leaves
21	<i>Smilax china</i>	<i>Parangipattai, Madhusmeegi, Senappatai</i>	China-root	Chobchini	Madusnuhi	Root tuber

Pharmacological activity of each ingredient of Parangipattai Rasayanam:

Smilax china:

Ethyl acetate fraction of *Smilax china* rhizome showed good Anti-Psoriatic Activity in the mouse tail test, anti proliferent activity and nitric oxide inhibition assay. The plant *Smilax china* rhizome possesses anti-psoriatic activity which is in agreement with its traditional use⁷. *Smilax china* has anti-inflammatory activity. Its decoction (90 and 180 mg/kg; p.o) could significantly inhibit inflammatory swelling on adjunctive arthritis mouse⁸. Shu *et al* 2006 has studied the anti-inflammatory activity⁹. Sieboldogenin, isolated from ethyl acetate fraction of *Smilax china* has potent anti-inflammatory activity¹⁰. The methanol extract of *Smilax china* exhibit antimicrobial activity¹¹. In vitro antimicrobial activity of *Smilax china* was reported by Shu Xiao-Shun *et al*¹².

Thespesia populnea:

Sindhu *et al* had reported the antipsoriatic activity was carried out by topical application of different extracts & isolated compounds (TpF-1, TpF-2 & TpS-2) of *Thespesia populnea* bark in the form of a cream using the Perry's scientific mouse tail model¹³. SwitiGaikwad B, Krishna Mohan had reported the immunomodulatory activity of methanolic extract of *Thespesia populnea* in wistar albino rats against levamisole as a standard drug and cyclophosphamide has negative control¹⁴. Elakkiya and Ananthi had reported the anti-inflammatory activity of ethanolic extract of leaf of *Thespesia populnea* in carrageenan induced paw oedema rats¹⁵.

Tribulus terrestris:

B. Navin Rajesh *et al* had reported the antipsoriatic activity was carried out by topical treatment with *Tribulus terrestris* extract inhibits the secretion of TNF- and IL-1 in the allergic contact dermatitis models of inflammation thereby decreasing the proliferation of inflammatory cells¹⁶.

Clerodendrum inerme

Clerodendrum inerme contained cardiac glycosides, anthraquinones, proteins, phenolics, flavonoids, saponins, tannins, iridoids, diterpenes, triterpenes, sterols, steroids, carbohydrates, fixed oils, volatile oils and lignin. It exerted many pharmacological effects including anti-inflammatory, analgesic, antipyretic, neural and smooth muscle effects, antimicrobial, antidiabetic, antioxidant, antiparasitic, insecticidal, antiallergic, anticancer, protective and many other pharmacological effects¹⁷.

Withania somnifera:

Ashwagandha is used in the treatment of tuberculosis, rheumatism, inflammatory conditions and cardiac diseases¹⁸. It acts as antitumor, antibiotic, anticonvulsant and CNS- depressant agent¹⁹. Steroidal lactones isolated from the leaves of *Withania somnifera* exhibit antibacterial, antifungal and anti tumourproperties²⁰. The steroidal content in ashwagandha is very much higher than that of hydrocortisone. This is proved in experimental rats²¹.

Zingiber officinale :

The hexane and ethyl acetate extract of *Zingiber officinale* was found effective against Colliform bacillus, *Staphylococcus epidermis* and *Streptococcus viridians*²². 100g/100ml concentration of water extract of ginger leaf and root showed 30 and 32 mm zone of inhibition against *Staphylococcus aureus* and *Streptococcus pyogenes*²³. Dry ginger oil was found to be active against *Pseudomonas aeruginosa*. Fresh ginger oil was found to be active against *Aspergillus niger*, *Candida* and *Pseudomonas aeroginasa*²⁴. Experiments were also conducted to study the antifungal activity of ginger and it was found to be a good antifungal agent²⁵. Gingerol, an active ingredient of ginger rhizome shows antibacterial activity against periodontal bacteria²⁶. The result of a double blind comparative clinical trial showed that ginger was equally effective to mefenamic acid and ibuprofen in relieving pain in patients with primary dysmenorrhoea²⁷.

Piper nigrum :

Piperidine from *Piper nigrum* show anti proliferative activity in vitro against HEP2 cancer cell line. It has cancer suppressing activity and anti carcinogenic activity²⁸. Singh and Duggal have reported the anti-inflammatory action of piperine. The pro-inflammatory cytokine GM-CSF, IL-6, TNF- and IL-1 was decreased by administration of piperine²⁹. Black pepper possess anti-inflammatory activity. Caryophyllene from black pepper exhibits anaesthetic activity³⁰. The piperine is significantly inhibited the production of two important proinflammatory mediators, IL6 and PGE2, in IL1 -stimulated human FLS. that piperine has antirheumatic effects in animal models and anti-inflammatory effects on IL1 -stimulated FLSs. Anti-inflammatory and antiarthritic effects of piperine was reported by Jun Soo Bang *et al*³¹.

Piper longum :

Piper longum at low dose (225 mg/kg) show immunostimulatory action³². *Piper longum* inine showed potent antibacterial activity against *Bacillus*

subtilis. Piperine was found to be more effective against *Staphylococcus aureus*³³. The anti tubercular activity of *Piper longum* was also reported³⁴. Ethanol, hexane, n- butanol extract of *Piper longum* was effective against *Entamoeba histolytica*. Piperine and the ethanolic extract of long pepper cures ceacalamoebiasis in rats³⁵. In carrageenan induced rat oedema model decoction of *Piper longum* showed marked anti inflammatory activity³⁶.

Gmelina arborea:

Shukla et al, investigated the immunomodulatory effects of methanolic extract of the roots of *Gmelina arborea* in albino rats³⁷. Patil et al (2009), investigated the antioxidant effect and free radical scavenging activity of defatted and fractionated methanol extract of stem bark of *Gmelina arborea*(MEGA) was evaluated by using various in vitro assays³⁸. Wansi et al (2012), investigated the effects *in vivo* Antioxidant and Vasodilating Activities from the *Gmelina arborea* leaves of hexane extract on markers of oxidative stress and its vasorelaxant effects on isolated rat aorta, in order to postulate the possible mechanisms involved in the antihypertensive properties of the plant³⁹.

Plumbago zeylanica :

The acetone extract of *Plumbago zeylanica* exhibited significant anti inflammatory activity. The acetone and petroleum ether extracts of the plant significantly (p < 0.01) decreased the pain stimulus⁴⁰. *Plumbago zeylanica* possess antioxidant and free radical scavenging activity. This is attributed to the presence of phenolic compounds⁴¹. The root extract of *Plumbago zeylanica* showed significant antioxidant activity⁴². Checker et al. (2009) have explained novel immunomodulatory effects of plumbagin.

Two plumbagic acid glucosides, 3'-O-betaglucopyranosyl plumbagic acid and 3'-O-betaglucopyranosyl plumbagic acid methylester along with five naphthoquinones (plumbagin, chitranone, maritinone, elliptinone and isoshinanolone), and five coumarins (seselin, 5-methoxyseselin, suberosin, xanthyletin and xanthoxyletin) were isolated from the roots of *Plumbago zeylanica*. All coumarins were not previously found in this plant. Cytotoxicity of these compounds to various tumor cells lines was evaluated, and plumbagin significantly suppressed growth of Raji, Calu-1, HeLa, and Wish tumor cell lines⁴³. Ethanolic extract of *Plumbago zeylanica*, could have vast therapeutic application against cancer⁴⁴.

Cinnamomum verum

Cinnamon (*Cinnamomum verum*) has been shown to have anti-inflammatory and antimicrobial properties,

but effects on parasitic worms of the intestine have not been investigated. Here, extracts of cinnamon bark were shown to have potent *in vitro* anthelmintic properties against the swine nematode *Ascaris suum*. Analysis of the extract revealed high concentrations of proanthocyanidins (PAC) and *trans*-cinnamaldehyde (CA)⁴⁵.

Costus speciosus

The phytochemical and antioxidant activity of the rhizome extracts of *Costus speciosus* were evaluated. Phytochemical screening indicated that, rhizomes are rich in a variety of primary and secondary metabolites such as carbohydrates, alkaloids, vitamin C, vitamin E, flavonoids, phenols, glycosides, saponins and minerals like Zn, Cu, Mn, Se and Fe⁴⁶. R. B. Malabadi (2005) explained that the hexane, methanol and aqueous extracts of leaf and rhizomes of *C. speciosus* were used by Indian traditional healers for treating skin diseases, diabetes, jaundice, snake bites and/or anti-inflammatory properties and was screened for in vitro antibacterial activities⁴⁷.

M. Singh et al. (2008) reported that *Costus speciosus* possesses Anticariogenic activity⁴⁸.

The ethanolic extract of the rhizome of *Costus speciosus* possesses anti-inflammatory and antipyretic properties⁴⁹.

Alpinia galanga:

Matsuda, H. et al (2003) reported Antiallergic principles from *Alpinia galanga* rhizome⁵⁰.

Satish, R. and Dhananjayan, R. (2003) studied Evaluation of the anti-inflammatory potential of rhizome of *Alpinia galanga* Linn⁵¹. Bendjeddou, D. et al (2003) reported Immunostimulating activity of the hot water-soluble polysaccharide extracts of *Alpinia galanga*⁵². Kubota, K. et al (2000.2001) reported antioxidative activity of 1'-acetoxychavicol acetate and its related compounds in the rhizomes of *Alpinia galanga* during⁵³.

Curculigo orchoides

Alcoholic extracts of the rhizomes showed hypoglycaemic and anti cancer activities. The powdered rhizomes and their aqueous extract exhibited significant hepatoprotective activity when comparable to silymarin, a known hepatoprotective agent. The methanolic and aqueous extract exhibited significant anti-inflammatory activity comparable to ibuprofen and indomethacin [rao and Mishra]. Alcoholic extracts of the plant showed adaptogenic, anti-inflammatory, anti convulsive, sedative, androgenic and immune promotion activities⁵⁴.

Syzygium aromaticum:

Clove oil clear respiratory passages, acting as an expectorant for treating many upper-respiratory conditions including colds, eye sties, bronchitis, sinus conditions, cough and asthma. One of the studies showed that the essential oil possess significant anti-inflammatory effect at Clove has been used in traditional public medicine to relieve nasal obstruction and musculoskeletal pain which implies its anti-inflammatory activity and the activity is due to COX-2 inhibition. The aromatic oil, when inhaled, can help relieve certain respiratory conditions like coughs, colds, asthma, bronchitis and sinusitis. Clove also contains a variety of flavonoids including kaempferol, rhamnetin and - caryophyllene which also contributed to its anti-inflammatory and antioxidant properties⁵⁵.

Carum copticum

The effect of aqueous extract of *Carum copticum* on several strains of bacteria showed antibacterial effect on *Enterococcus faecalis*, *Staphylococcus aureus*, *Escherichia coli*, *P. aeruginosa*, *S. typhimurium*, and *Shigella flexneri*⁵⁶. Antifungal activity of essential oil of *Carum copticum* seeds is also documented against toxigenic *Aspergillus* species. The oil of this plant also is able to inhibit the growth of this parasite⁵⁷.

Mesua nagassarium

The phytochemical analysis of *Mesuaferrea* bark ethyl acetate extract revealed the presence of high amount of phenolic content, flavonoids, terpenoids and coumarins which may be responsible for anti-inflammatory and antioxidant activities of *Mesuaferrea* bark ethyl acetate extract⁵⁸. Manoj Kumar Chahar et al reported immunomodulatory activity of mesuol isolated from *M. ferrea* seed oil in experimental animals⁵⁹.

Gmelina asiatica

V. Parthasarathy et al reported Antioxidant and hepatoprotective activity of chloroform and ethanol extracts of *Gmelina asiatica* aerial parts⁶⁰. V. Parthasarathy et al reported Antitumour Activity of chloroform extract of *Gmelina asiatica* Aerial Parts Against Dalton Ascites Lymphoma in Mice⁶¹.

Capparis sepiaria

Preliminary phytochemical evaluation of the ethanolic extract of revealed that the presence of reducing sugar, flavonoids, steroids, tannins, glycosides, alkaloids, gums, resins, amino acids, proteins and anthraquinones⁶². The crude ethanol extract of

Capparis sepiaria exhibited antidiabetic property in STZ-induced diabetic rats⁶³.

Azima tetracantha

The anti-inflammatory activity of *A. tetracantha* leaf powder was assayed in male albino rats using carrageenan-induced rat paw edema (to study acute inflammation) and cotton pellet granuloma (to study chronic inflammation) methods by Ismail et al⁶⁴. Antonisamy et al evaluated anti-inflammatory effect of friedelin using carrageenan-induced hind paw edema, croton oil-induced ear edema, acetic acid-induced vascular permeability, and cotton pellet-induced granuloma⁶⁵. Sunil et al isolated friedelin from leaves and showed that friedelin possesses potent in vitro antioxidant and free radical scavenging activity as evaluated by assays, namely, DPPH, hydroxyl, nitric oxide, and superoxide radical scavenging activities⁶⁶. The triterpenoid friedelin, isolated from hexane extract of *A. tetracantha* leaves, was evaluated for insecticidal activity by Baskar et al⁶⁷. Manikandaselvi et al determined antinephrotoxic potential of leaf powder of *A. tetracantha* by ferrous sulfate-induced renal injury model in rats⁶⁸. Sridharan et al screened for ethanolic extract obtained from whole plant of *A. tetracantha* for antiarthritic activity by Freund's complete adjuvant (FCA)-induced arthritis method⁶⁹.

Conclusion

From this literature review it is evident that the most of ingredients of '*Parangipattai Rasayanam*' has pharmacological activities like Anti-Psoriatic Activity, Immunomodulatory, Anti-inflammatory activity which are responsible for its therapeutic activity claimed in literature.

References

1. T.V.Sambasivampillai, Tamil-English dictionary of Medicine, Chemistry, Botany and Allied sciences, 13-14, first edition-1931, 2nd edition 1991, vol29, Directorate of Indian medicine and homoeopathy, (1994).
2. Journal of Applied Pharmaceutical Science Vol. 4 (11), pp. 114-121, November, 2014, Natural Treatment Alternative for Psoriasis: A Review on Herbal Resources Kamlesh Kumar Singh, SurendraTripathy Division of Pharmaceutics, Varanasi College of Pharmacy, Varanasi, India.
3. AgasthiyarRathinaChurrukam, S.P.Ramachandran, 2 Edition February1998, pgno 41, 42, Thamarai noolagam.
4. Athma Ratchamirtham Ennum Vaithya Saarasangiragam, KandasamyMudaliar, 1 Edition September 2011, pgno 485.

5. PiramamuniKarukadai Suthiram, S.P. Ramachandran 1 Edition February1998,pg no 74, 75.
6. MaruthuvaAasiriyamDr.T.Mohanraj1 Edition, August 2008pg no 3.
7. Vijayalakshmi.A et al Indian Journal of pharmaceutical Education and Research Jan –Mar, 2013/Vol 47 Issue.
8. Lu Y, Chen D, Deng J, Tian L, Effect on *Smilax china* on adjunctive arthritis mouse. Zhong Yao Cai 2003;26: 344- 46.
9. Shu XS, Gao ZH, Andyang XL. Anti-inflammatory and Anti-nauciceptive activities of *Smilax china* Linn. Aqueous extract. J. Ethnopharmacol 2006; 103: 327-32. <http://dx.doi.org/10.1060/j.jep.2005.08.004>.
10. Khan I, Nisar M, Ebad F, Nadeem S et al. Anti-inflammatory activities of sieboldogenin from *Smilax china* Linn: experimental and computational studies. J Ethnopharmacol 2009; 121(1): 175-7. <http://dx.doi.org/10.1016/j.jep.2008.10.009>.
11. Song JH, Kwon H, Lee WK, Park IH. Anti-microbial activity and composition of extract from *Smilax china* root. J. Korean Soc. Food Sci. Nutr 1998;27: 574-84.
12. Shu Xiao S, Jin Hai LV, Tao Jun et al, Evaluation of the *in vitro* Anti-microbial activity of *Smilax china* Linn. Extracts. Indian Journal.com 2010; 2(2): 345-7.
13. SiddharthShrivastav, RakeshSindhu K, Sanjeev Kumar, Pradeep Kumar. Anti-psoriatic and phytochemical evaluation of *Thespesia populnea* bark extracts. International Journal of Pharmacy and Pharmaceutical Sciences 2009; 1(1):176-185.
14. SwitiGaikwad B, Krishna Mohan G. Immunomodulatory activity of methanolic extract of *Thespesiapopulnea* leaves in wistar albino rats. Asian Journal of Pharmaceutical and Clinical Research 2011; 4(4):99-101.
15. Elakkiya S and Ananthi T. Studies on anti-inflammatory activity of *Thespesia populnea* Linn on the drug induced male albino rats. J Chem Pharm Res 2011; 3(5):473- 477.
16. Anti-Psoriatic Effect of *TribulusTerrestris* Extract by Topical Application in Mouse Model of Contact Dermatitis B. Navin Rajesh¹, Albin Fleming¹ et al, International Journal of Veterinary Science.
17. Chemical Constituents and Pharmacological Effects of *Clerodendrum inerme*- A Review Ali Esmail Al-Snafi* Department of Pharmacology, College of Medicine, Thiqr University, Iraq, SMU Medical Journal, Volume – 3, No. – 1, January, 2016.
18. Asthana R, Raina MK. Pharmacology of *Withania somnifera* (L.). Dunal. Ind. Drugs. 1989; 26: 199-205.
19. Sharma K, Dandiya PC. *Withaniasomnifera* (L.) Dunal: present status. Ind. Drugs. 1992; 29: 247-253.
20. Constituents of *Withaniasomnifera* Dun—XIII : the withanolides of chemotype Glotter, E.; Kirson, I.; Abraham, A.; Lavie, D. Tetrahedron 1973, 29, 1353-1364.
21. Anbalangan K; Sadique J; Indian Journal of Experimental Biology 1981, 19,245-249.
22. SP Mallu et al. Antibacterial activity and Medicinal properties of Ginger (*Zingiberofficinale*), Global Journal of Pure and Applied Science. 2009 , 15(3) , 365-68.
23. Sebiomo, A. D. Awofodu, A. O. Awosanya, F. E. A wotona and A. J. Ajayi .J :Comparative studies of antibacterial effect of someantibiotics and ginger (*Zingiber officinale*) on two pathogenic bacteria .A.. Microbiol. Antimicrob. Vol. 3(1), pp. 18-22, January 2011.
24. InduSasidharan , A.NirmalaMenon: Comparative chemical composition and antimicrobial activity fresh& dry ginger oils(*zingiberofficinale* Roscoe, Int J Curr Pharm Res, Vol 2, Issue 4,40-43.
25. Ficker C, Smith ML, Akpagana K, Gbeassor M, Zhang J, Durst T, Assabgui R, Arnason JT, Bioassay-guided isolation and identification of antifungal compounds from ginger. Phytother Res, 17: 897–902, (2003).
26. Miri P, Bae J, Lee D-S; Antibacterial activity of -gingerol and -gingerol isolated from ginger rhizome against periodontal bacteria. Phytotherapy Res. 2008; 22:1446-1449.
27. Comparison of Effect of Ginger, Mefenamic Acid, and Ibuprofen on Pain in Women with Primary Dysmenorrhea. Ozgoli G, Goli M and Moattar F. The Journal of Alternative and Complementary Medicine. 2009, 15(2): 129-132.
28. Isolation of piperidine from *Piper nigrum* and its anti proliferative activity . S. K. Reshmi, E. Sathya and P. Suganya Devi. African Journal of Pharmacy and Pharmacology Vol. 4(8). pp. 562-573, August 2010.
29. Singh A, Duggal S, Piperine review of advances in pharmacology. Inter. J. Pharma. Sci. Nano tech 2009; 2: 615-20.
30. Santra M, Santra DK, Rao VS, Taware SP, Tamhankar SA. Inheritance of karotin concentration in Durum wheat (*Triticum turgidum* L. ssp. durum). Eucalypta 2005; 144: 215.
31. Jun Soo Bang, Da Hee Oh, Hyun Mi Choi, Bong-Jun Sur, Sung-Jig Lim, Jung Yeon Kim, Hyung-In Yang, MyungChulYoo, Dae-Hyun Hahm, and KyoungSoo Kim - Anti-inflammatory and antiarthritic effects of piperine in human interleukin 1 -stimulated fibroblast-like synoviocytes and in rat arthritis models, Arthritis Res Ther, V.11(2); 2009,PMC2688199.
32. ChauhanKushbu, SolankiRoshni, Patel Anar, Patel Mayuree. Phytochemical and therapeutic potential of *Piper longum* Linn. – A review. International Journal of Resarch in Ayurvedha and Pharmacy. 2011; 2 (1). Pp : 157-161.

33. Bhargava A and Chauhan C. Antibacterial activity of essential oil, Indian J of Pharm. 1968 ; 30:150.
34. Anon, Report of the Composite Drug Research Scheme, ICMR, New Delhi, 1967-68.
35. Rao C and Nigam S. Antimicrobial activity of essential oils. Indian J of Pharm. 1968 ; 30:150.
36. Sharma A and Singh R. Screening of anti-inflammatory activity of certain drugs on carrageenan induced hind paw oedema in rats. Bull. Med. Ethnobot. Res 1980; 2: 20.
37. S. H. Shukla, A. K. Saluja,¹ and S. S. Pandya² Modulating effect of *Gmelina arborea* Linn. on immunosuppressed albino rats Pharmacognosy Res. 2010 Nov-Dec; 2(6): 359–363.
38. Patil SM, Kadam VJ, Ghosh R. *Int J Pharm Tech Res* **2009**;1(4):1480-484.
39. Wansi SL, Nyadjeu P, Nguiefack TB; Fodouop SFK, Donatien AA, Kamanyi A. *Journal of complementary & integrative medicine* **2012**; 9(1).
40. Sheeja E, Joshi SB, Jain DC , “Bioassay- guided isolation of anti-inflammatory and antinociceptive compound from *Plumbago zeylanica* leaf” , Pharm Biol. 2010 Apr;48(4):381-7.
41. Antioxidant activity and phytochemical evaluation of plumbagozeylanicalinn. In vivo and in vitro. Satyajit Kanungo, Gayatri Nahak, Santi Lata Sahoo and Rajani Kanta Sahu. *Int J Pharm Pharm Sci*, Vol 4, Suppl 4, 522-526.
42. Nile SH and Khobragade C N , “ Antioxidant activity and flavonoid derivatives of *Plumbagozeylanica*”, *Journal of Natural Products*, vol-3 ,2010 , 130-133.
43. Lin LC, Yang LL, Chou CJ., Cytotoxic naphthoquinones and plumbagic acid glucosides from *Plumbago zeylanica*. PMID: 12560036 [PubMed - indexed for MEDLINE].
44. Sachin Hiradeve, Kishor Danao, Vijay Kharabe, Bibhilesh Mendhe, Evaluation of anticancer activity of *Plumbago zeylanica* Linn. Leaf extract , *International Journal of Biomedical Research*.
45. Andrew R. et al, Anthelmintic activity of *trans*-cinnamaldehyde and A- and B-type proanthocyanidins derived from cinnamon (*Cinnamomum verum*), Published online 2015 Sep 30. /10.1038/srep14791, *Sci Rep*. 2015; 5: 1479, PMID: PMC4588565.
46. Phytochemical Screening and Antioxidant Activity of Rhizome Extracts of *Costus speciosus* (Koen.) J.E. Smith Sanjay Jagtap^{1*} and Rajendra Satpute *Journal of Academia and Industrial Research (JAIR)* Volume 3, Issue 1 June 2014.
47. R. B. Malabadi, *Journal of Phytological Research*, 2005, 18(1), 83-85.
48. M. Singh, C. P. Rai, M. Kumar, *Journal of Ecophysiology & Occupational Health*, 2008, 8(3 & 4), 177-181.
49. Binny K, Sunil Kumar G, Dennis Thomas, *Journal of Basic and Clinical Pharmacy*, 2010, 1(3), 177-181.
50. H. Matsuda, T. Morikawa, H. Managi, M. Yoshikawa, *Bioorganic & Medicinal Chemistry Letters*, 2003, 13 (19), 3197-3202.
51. R. Satish, R. Dhananjayan, *Biomedicine*, 2003, 23 (1/2), 91-96.
52. D. Bendjedou, K. Lalaoui, D. Satta, *Journal of Ethnopharmacology*, 2003, 88 (2/3), 155- 160.
53. K. Kubota, Y. Ueda, M. Yasuda, A. Masuda, Occurrence and antioxidative activity of 1'-acetoxychavicol acetate and its related compounds in the rhizomes of *Alpinia galanga* during cooking. Food flavors and chemistry: advances of the new millennium. Proceedings of the 10th International Flavor Conference, Paros, Greece, 4-7 July 2000. 2001, 601-607.
54. The wealth of India ,volume 2 2003, National Institute of science communication and information resources, New Delhi, pg 257-258.
55. Phytochemical evaluation and pharmacological activity of *Syzygium aromaticum*: a comprehensive review review article, Monika mittal et al , *International Journal of Pharmacy and Pharmaceutical Sciences* ISSN- 0975-1491 Vol 6, Issue 8, 2014.
56. G. J. Kaur and D. S. Arora, “Antibacterial and phytochemical screening of *Anethum graveolens*, *Foeniculum vulgare* and *Trachyspermum ammi*,” *BMC Complementary and Alternative Medicine*, vol. 9, article 30, 2009.
57. A. Alizadeh, E. Zamani, R. Sharaifi, M. Javan-Nikkhah, and S. Nazari, “Antifungal activity of some essential oils against toxigenic *Aspergillus* species,” *Communications in Agricultural and Applied Biological Sciences*, vol. 75, no. 4, pp. 761–767, 2010.
58. Anti-Inflammatory, Antioxidant and Phytochemical Analysis of *Mesua Ferrea* Bark Extracts K. Krishna Chaitanya^{*1}, K. Kamalakara Rao¹, Y.N. Sastry¹, Dr. S.B. Padal², Dr. A. Rajya lakshmi³, Dr. D. Govinda Rao¹.
59. In-vivo antioxidant and immunomodulatory activity of mesuol isolated from *Mesua ferrea* L. seed oil Manoj Kumar Chahar D.S. Sanjaya Kumar T. Lokesh K.P. Manohara *International Immunopharmacology*, Volume 13, Issue 4, August 2012, Pages 386-391.
60. Antioxidant and hepatoprotective activity of chloroform and ethanol extracts of *Gmelina asiatica* aerial parts. N. J. Merlin and V. Parthasarathy, *Journal of Medicinal Plants Research* Vol. 5(4), pp. 533-538, 18 February, 2011
61. Potential Antitumour Activity of *Gmelina asiatica* Aerial Parts Against Dalton Ascites Lymphoma in Mice, N.J. MERLIN and V. PARTHASARATHY* *Asian Journal of Chemistry* Vol. 22, No. 4 (2010), 3193-3199

62. Phytochemical Screening and Toxicity Studies on the Leaves of *Capparis sepiaria* Linn. Rajesh P¹, Latha S², Selvamani P², Kannan VR¹. J Basic Clin Pharm. 2009 Dec;1(1):41-6. E pub 2010 Feb 15.
63. Antidiabetic Activity of the Ethanol Extract of *Capparis sepiaria* L Leaves, P. Selvamani, S. Latha, K. Elayaraja, P. Suresh Babu, J. K. Gupta,¹ T. K. Pal,¹ L. K. Ghosh,¹ and D. J. Sen², Indian J Pharm Sci. 2008 May-Jun; 70(3): 378-380.
64. Ismail TS, Gopalakrishnan S, Begum VH, Elango V. Anti-inflammatory activity of *Salacia oblonga* wall. And *Azima tetraacantha* Lam. J Ethnopharmacol 1997;56:145-52.
65. Antonisamy P, Duraipandiyan V, Ignacimuthu S. Anti-inflammatory, analgesic and antipyretic effects of friedelin isolated from *Azima tetraacantha* Lam. In mouse and rat models. J Pharm Pharmacol 2011;63:1070-7.
66. Sunil C, Duraipandiyan V, Ignacimuthu S, Al-Dhabi NA. Antioxidant, free radical scavenging and liver protective effects of friedelin isolated from *Azima tetraacantha* lam. Leaves. Food Chem 2013;139:860-5.
67. Baskar K, Duraipandiyan V, Ignacimuthu S. Bioefficacy of the triterpenoid friedelin against *Helicoverpa armigera* (Hub.) and *Spodoptera litura* (Fab.) (Lepidoptera: Noctuidae). Pest Manag Sci 2014;70:1877-83.
68. Manikandaselvi S, Ramya D, Ravikumar R, Thinagarbabu R. Evaluation of antinephrotoxic potential of *Azima tetraacantha* Lam. and *Tribulus terrestris* Linn. Int J Pharm Pharm Sci 2012;4:566-8.
69. Sridharan C, Jose MA, Radhakrishnan R, Manisenthilkumar KT. Anti-inflammatory and antiarthritic activity of *Azima tetraacantha* (LAM) whole plant in albino wistar rats. Indian J Pharmacol 2008;40:S83.

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