

Medicinal plants used for the treatment of various skin diseases by tribal of Dhar district and adjacent regions of western Madhya Pradesh, Madhya Pradesh, India.

Sudip Ray^{*1} and Kamal Alawa²

¹Department of Botany, PMB Gujarati Science College, Indore, MP, India

²Dept of Botany, Govt P G College, Dhar, MP, India

*corresponding Author E-mail:sudbot@yahoo.com

ABSTRACT

Present study deals with the medicinal plants used for skin diseases by tribals of Dhar district and adjacent regions of Western Madhya Pradesh. Dhar district is situated in the western part of Madhya Pradesh and dominant tribes of Dhar and adjacent regions are Bhil, Bhilala,,Barela and Pateliya .Present study accounts a total of 45 medicinal plants which are used for the treatment of skin diseases .These 45 plant species are distributed in 30 families and 44 genera .There are 18 trees,5 shrubs, 8 climbers and 14 herbaceous plant species which are used for treating various skin diseases.by tribal of study area. Some plants used for skin diseases in the study area is depleting in alarming rate and need special attention for their conservation.

KEY WORDS: Skin disease, Bhil, Bhilala, Pateliya, Eczema, Ringworm,Scabies

I. INTRODUCTION:

Dhar district is situated in the western part of Madhya Pradesh.It lies between the latitude of 22⁰00' to 23⁰10'North and longitude of 74⁰28' to 75⁰42'East. It is bounded by district Ratlam to the North, Ujjain to the northeast, Indore to the east, Khargone to the west. Total area of the Dhar district is 8153 sq. km. of which forest covers 1370 sq. km. which is 16 percent of its geographical area. Forest type of the study area is of tropical dry deciduous [5].Dominant tribes inhabiting in the study area are Bhil,Bhilala and Pateliya representing 84 percent of the total population. Bhil constitutes 30.93percent, Bhilala 42 percent, Pateliya 7 percent and Barela 4 percent respectively. They reside in the dense remote forests and completely dependent on forest for their daily needs and health care. Herbal therapy for skin disorder has been used since time immemorial.Skin disorder or skin diseases are found worldwide and traditional medicinal resources especially plants have been found to play a major role in managing skin disorder. Skin diseases are conditions that affect skin. Factors like socio economic status, environmental conditions, dietary habits, climate, cultural factors, genetic factors and educational status influence the presence of skin diseases. There are numerous types of skin disorders which affect the skin sometime very severely.Marks *et al* ,2006 categorized majority of them into rashes, viral skin infection(Herpes skin damage), bacterial skin infection(Eczema ,Psoriasis, Acne),fungal infection(Itching, ringworm), parasitic infection(Scabies, lice),pigment disorder(Skin irritation),tumor and skin trauma [26]. Some skin diseases are minor and other causes severe symptoms. Most of the tribal people have

skin diseases due to vitamin deficiency and lack of hygiene. There are many different types of skin disorder found among tribal. Tribal people are the treasure of indigenous knowledge of local medicinal plants. Significant contributions were made on ethnomedicinal plants of Madhya Pradesh [1,2,7,8,9,10,13,14,18,19,21,22,23,24,25,27,28,29,31,32,33,34,35,37,38,41,42,46,48]. Available literature indicates that study area is less known in respect to ethnomedicinal plants used for skin diseases except some publications mentioning few plants used as remedies for skin care [3,12,44]. Present study was aimed to focus on the ethnomedicinal plants used in cure of skin diseases by tribal of the Dhar and adjacent regions of western Madhya Pradesh.

II. METHODOLOGY:

Present study was the outcome of continuous field survey made in selected villages of Badnawar, Dharampuri, Gondwani, Dahi, Kukshi, Manawar, Bhanpura, Badkiya, Sardarpur, Bagh, Keshvi, Tanda, Mandu, Nalcha, Jirapur, Bagh in the Dhar and adjacent regions from 2011 to 2018. Plant survey was carried out following standard method [20]. Interview was conducted using questionnaires and Information regarding vernacular plant, plant parts used, preparation and application was gathered. Ethnomedicinal information was obtained from Badwa, local medicine men, Vaidhyas and knowledgeable experienced local informants. Ethnobotanical data regarding medicinal properties was compared and confirmed [6, 15]. Plants were identified with the help of various flora and available literature [30, 36,47]. Herbarium was prepared as per customary methods. [16]. Voucher specimens have been housed in the herbarium of PMB Gujarati Science College, Indore

III. RESULT AND DISCUSSION

Present study reports 45 medicinal plant species which are used by tribal of Dhar district in cure of skin diseases (Table -1) These plant species are widely used in the study area to treat eczema, scabies, ringworm, leprosy, leucoderma, boils etc. Highest number of 10 plant species is used for the treatment of eczema followed by 06 plants for scabies, 06 plants for ringworm, 04 plants for leprosy, 03 plants for boils and 02 plants for leucoderma respectively. Administration of different plant parts were typically applied as paste, powder, latex, poultice on the affected skin area. Sometime decoction is taken orally to cure dermatological disorder. Jain (2004) made ethnobotanical survey of Dhar district and reported 31 wild species of medicinal plants of which only 3 plant species such as *Moringa oleifera* Lam, *Ricinus communis* L. and *Leonitis nepetifolia* (L.) R.Br. are used for skin diseases [12]. Jadhav (2006) reported 62 ethnomedicinal plants used by Bhil tribes of Biblod, MP of which 06 plants are used to treat skin diseases [9]. Similar uses of 3 plants such as *Argemone Mexicana* L, *Ocimum basilicum* L. and *Tinospora sinensis* (Lour.) Merr are found in both the regions [9]. Work on ethnomedicine of Bhil tribe of Jhabua district, MP is compared with Dhar district [29,19,35]. Comparison reveals that *Celastrus paniculata* Willd., *Flacourtia indica* (Burm f.) Merr., *Martynia annua* L., *Plumbago zeylanica* L. are used to cure skin diseases in both the districts. Many species consumed by tribals of Dhar district for skin diseases are also used by tribals of other places [13,27,31,33,34,46]. These plants are *Senna occidentalis* (L.) Link., *Acacia catechu* (L.f.) Willd., *Annona squamosa* L., *Argemone mexicana* L., *Eclipta prostrata* (L.) L., *Plumbago zeylanica* L.,

Shukla et al (2010) reported 166 ethno medicinal plants from Rewa district, MP of which 14 plants are used in recovery of skin diseases [39]. It is observed that 4 plants are commonly used for treatment of skin diseases in Rewa .Similar uses of two plants *Acanthospermum hispidum* DC.and *Acacia catchu* L.f.)Willd have been observed in both the district.

Mishra and Patil (2014) worked on 35 ethno medicinal plants used by korku,Gond,Gaiki and bharia tribes for curing skin diseases in Betul district [27]. Comparison shows that similar uses of 4 plants such as *Argemone mexicana* L.,*Aristolochia indica* L.,*Annona squamosa* L.,*Plumbago zeylanica* L. are being administered by tribal community of both the district. These plants are also used for similar purposes by Bhil ,Bhilala, Gond ,korku tribes of central Narmada valley of Madhya Pradesh [7]. Adhikari *et al* (2021) reviewed ethnomedicinal plants used for healing skin ailments in Madhya Pradesh,India [1]. Comparison reveals that 17 ethnomedicinal plants used for skin diseases in the study area were not mentioned in this review and uses of these ethnomedicinal plants for skin diseases have been considered as new records from Dhar and adjacent regions of western MP.These plants are *Alangium salvifolium*(L.f)Wang.,*Barleria lawii* T.Anderson,*Boswellia serrata*Roxb.,*Ceropegia bulbosa* Roxb.,*Dreggea volubilis*(L.f.)Benth ex Hook, *Drimia indica*(Roxb.)Jessop,*Euphorbia tirucalli* L.,*Gardenia latifolia*Ait.,*Grewia serrulata* DC.DC.,*Jatropha curcas*L.,*Jatropha gossypifolia*L.,*Luffa acutangula*(L.)Roxb., *Mucuna pruriens*(L.)DC,*Ocimum basilicum* L.,*Pergulia daemia*(Forssk)Chiov.,*Sauromatum venosum*(Dryand ex Aiton)Kunth,*Tinospora sinensis* (Lour.)Merr.

IV. CONCLUSIONS AND FUTURE SCOPE:

Tribal people of Dhar and adjacent regions of western MP are using 45 plant species for the treatment of skin diseases clearly indicating the importance of local medicinal plants in their skin care. Some medicinal plants used for skin diseases in the study area were abundantly occurred in the study area but now depleting in alarming rate due to overexploitation, illegal trade and high use value. *Alangium salvifolium* L.f willd.,*Boswellia serrata* Roxb. Ex Colebr.,*Ceropegia bulbosa* Roxb.,*Drimia indica*(Roxb.)Jessop,*Eclipta prostrata* (L.)L.,*Helicteres isora* L.,*Hemidesmus indicus*(L.)R.Br.*Leea macrophylla* Roxb. Ex Hornem and *Plumbago zeylanica* L. need special attention for their conservation. Sustainable use or propagation of these plants in their original habitat should be done. Medicinal plants used by tribal of the study area acquires ample scopes for further research and need thorough phytochemical investigations of these medicinal plants with clinical trials for the development of new drug.

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VI. REFERENCES:

- [1.] Adhikari C, Kumar T, Maurya Devanand, Bishwas A J. 2021. Review on ethnomedicinal plants used for healing ailments in Madhya Pradesh, India. *Indian journal of ecology*. 48(3); 709-715
- [2.] Ahirwar R. 2020. Ethnomedicinal uses of some plants used by Gond tribe of Dindori district, MP. *Plant Archive*. 20(1), 537-541
- [3.] Alawa K S, Ray S and Dubey A. 2016. Folklore claims of some ethnomedicinal plants used by Bhil Tribes of Dhar District Madhya Pradesh. (1): 60-62
- [4.] Brijlal. 1998. Ethnobotanical studies of the baigas in baigachak region in MP. *Bull. Trib. Dev and Reasea. Ins.*. 16.(1) 29-35
- [5.] Champion H G and Seth S K. 1968. A revised survey of forest type of India. Manager of publications, New Delhi, India
- [6.] Chopra RN and Nayar S L and Chopra L C. 1956. Glossary of Indian medicinal plants. Publication and Information Directorate, New Delhi
- [7.] Choudhary MS, Mishra N, Upadhyay S and Upadhaya R. 2011. Indigenous knowledge of using medicinal plants in treating skin diseases by tribal in central Narmada valley of MP. *Bulletin of Environment, Pharmacy and life sciences*. (1), 60-63
- [8.] Dwivedi S N. 2004. Herbal remedies among tribals of Sidhi district, MP. *J Eco. Tax. Bot.*, 28(3) 675-687
- [9.] Jadhav D. 2006. Ethnomedicinal plants used by Bhil tribes of Bilod, MP. *Ind. J. trad. knowledge*, 263-267
- [10.] Jadhav D and Rawat S S. 2011. Ethnomedicinal plants used in the treatment of various ailments by bhila tribes of Alirajpur district, MP. *J. Eco. Tax. Bot.* 35(4), 654-657
- [11.] Jain AK, Wagh V, Kadel C. 2011. Some ethnomedicinal plants species of Jhabua district, MP. *Ind. J. of trad. knowledge*. 10(3) 538-540
- [12.] Jain SP. 2004. Ethnomedicinal Botanical survey of Dhar district, MP. *J. Non Timber Forest Product* 11(2), 152-157
- [13.] Jain A K. 1992. Ethnobotanical studies of Sahariya tribals of Madhya Pradesh. with special reference to medicinal plants. *J. Eco. Tax. Bot.* 16, 227-232
- [14.] Jain NK and Pachaya J S. 2015. Study on the phytotherapeutic uses of plants by the tribal people of Alirajpur district, MP. *European J of Pharmaceutical and medical research* 2(7), 236-240
- [15.] Jain Sk. 1991. Dictionary of Indian Folk medicine and ethnobotany, New Delhi. Deep publication.
- [16.] Jain S K and Rao R R. 1977. Hand book of field herbarium methods, Scientific publishers, Jodhpur
- [17.] Jain SK. 1963. Studies in Ethnobotany. Less known uses of 50 common plants from tribal areas of MP. *Bull. bot. Surv. Ind.* 5(1) 223-226
- [18.] Jain AK and Patole SN. 2001. Less known medicinal uses of plants among some tribal and rural communities of Panmarhi Forest. *Ethnobotany* 13. 96-100
- [19.] Jain SP, Sarica Shrivastava Singh SC. 2011. Traditional phytotherapy of Balaghat district, MP. *Ind. J. of trad. knowledge*. 10(2) 334-338
- [20.] Jain S K. 1987. A manual of ethnobotany, Scientific publisher, Jodhpur
- [21.] Jaiswal P and Jain B. 2018. A review on ethnomedicinal plants of Nimar area in Madhya Pradesh. *Int J. of Pharmacognosy and phytochemical research* 9(7)
- [22.] Kumar A and Khanna KK. Ethnomedicinal plants of Betul district. *Bull. Bot. Surv. of India*, 42(1-4); 109-114,

- [23.] Kumar IP, Salim M and Prajapati P. 2017. Enumeration of ethnomedicinal plants of Sidhi district, MP. *Int Journal of Botany Studies* 2(1): 121-124
- [24.] Kadam D and Sharma A. 2013. Indigenous knowledge of using medicinal plants in treating skin diseases in Pancmarhi Biosphere Reserve, MP, India. *International Journal Green and herbal chemistry* 2(2): 194-198
- [25.] . Kapale R 2012. Ethnomedicinal plants used by baiga tribals in Amarkantak Meikal forest of Madhya Pradesh (India). *Bulletin of Environment, Pharmacology and Life Sciences* 1(4): 14-15
- [26.] Marks J, Miller JJ and Lookingbill D .2006. Principles of dermatology. Lookingbill and Marks'' principles of dermatology (4 th ed.). Philadelphia, PA: Saunders Elsevier, pp. 3-50
- [27.] Mishra NP and Patil P. 2014. Ethnomedicinal plants used for curing skin diseases by tribal of Betul district, MP. *J. of Global Biosciences* 3(4): 731-734
- [28.] .Mishra R K ,Patel SP and Shrivastava A. S .Vashishta R, Singh A and Pushkar AK. 2012. *Nature and Science* 10(4): 1-5
- [29.] Maheswari JK, Kalakoti BS and Brijlal. 1986. Ethnomedicinal plants used by Bhil tribes of Jhabua district, MP. *Ancient science of life* .5(4): 255-261
- [30.] Mudgal V, Khanna KK and Hajra PK 1999. *Flora of Madhya Pradesh Vol II*. BSI, Calcutta
- [31.] Nath and Khatri PK. 2010. Traditional knowledge on ethnomedicinal uses prevailing in tribal pocket of Chindwada and Betul districts, MP. *African J of Pharmacy and pharmacology*.
- [32.] Oomachan M and Masih SK .1993. ethnomedicinal observations on certain plants of tribal region of MP. *Biome*. 6: 59-64
- [33.] Patil PS and Patil MV and Patil D.A .2011. Investigation on folkloric medicines in Badwani district, MP. *Current Botany*, 2(9): 12-18
- [34.] Ray S, Sheikh M and Mishra S .2011. Ethnomedicinal plants used by tribals of East Nimar region MP. *Ind. J trad .knowledge*. 10 (2): 367-371
- [35.] Samvatsar S and Diwanji VB. 2001. Plants used for skin diseases, cut, wounds and bruises by tribal of western MP. *J Econ Tax, Bot. Add. series* 12: 122-131
- [36.] Samvatsar S. 1996. *the flora of western tribal MP*. Scientific publishers
- [37.] Singhal A, Khare RK and Yadav R 2017. Comparative study of some ethnomedicinal plants among the tribals of Datia and Sheopurkalan District (M.P.). *International Journal of Life Sciences Scientific Research* 3(1): 838-843.
- [38.] Sandhya K and Sandhya G 2015. Ethnobotanical investigation of some medicinal plants used by tribes of Mandla District, Madhya Pradesh, India. *International Journal of Science and Research (IJSR)* 4(12): 1694-1696
- [39.] Shukla AN, Shrivastava S, Rawat KS .2010. An ethnobotanical study of medicinal plants of Rewa district, MP. *Ind J trad. Knowledge* 9(1): 191-201
- [40.] Sainkhediya J and Ray S 2014. Studies on the threatened ethnomedicinal plants used by tribals of Harda district of MP, India. (12): *International Journal of Science and Research* 3: 2590-2593.
- [41.] Srivastava A, Patel S, Mishra RK, Singh A and Pushkar AK 2012. Ethnomedicinal importance of the plants of Amarkantak region, Madhya Pradesh, India. *International Journal of Medicinal and Aromatic Plants* 2(1): 53-59.
- [42.] Sikarwar RLS and Painule .1993. RM. studies on the medicinal uses of plants by Sahariya tribe of MP. *Aryavaidya*, 1: 51-53

- [43.] Sikarwar R L S, Pathak B, Jaiswal A. 2008. Some unique ethnomedicinal perceptions of tribal communities of Chitrkut, Madhya Pradesh. *Ind J. of trad. Knowledge*. 7(4): 613-617
- [44.] Solanki CM and Satya V. 2004. Ethnomedicinal plants of Dhar district. *Bull. Bot Surv. Ind* 46(1-4): 383-389
- [45.] Tripathi and Sikarwar RLS 2013. Some traditional herbal formulations of Chitrakut region, MP, India. *Ind J traditional knowledge* 12(2): 315-320
- [46.] Vijendra N and Kumar KP 2010. Traditional knowledge on ethnomedicinal uses prevailing in tribal pockets of Chindwara and Betul Districts, Madhya Pradesh, India. *African Journal of Pharmacy and Pharmacology* 4(9): 662-670.
- [47.] Verma DM, Blakrishnan NP and Dixit RD, Flora of Madhya Pradesh. Vol 1. BSI, Calcutta
- [48.] Wagh VV and Jain AK. 2014. Ethnomedicinal uses of underground plant parts in Jhabua District of Madhya Pradesh, India. *Advances in Biological Research* 8(4): 151-156.

Table:1 Plants used by tribals of Dhar district in cure of skin diseases

S.no	Botanical name/localname/H.no	Family	Habit	H.no	Uses
1.	<i>Abutilon indicum</i> (L.)Sweet. Kanghi	Malvaceae	shrub	AK1013	Rootpowder is used in skin diseases
2	Acacia catechu (L.f.)Willd. Katha	Fabaceae	Tree	Ak756	Decoction of bark is orally in empty stomach twice a day in skin diseases
3.	<i>Acanthospermum hispidum</i> DC. Chota Gokhru	Asteraceae	Herb	AK54	Leaf paste is used in Eczema
4.	<i>Achyranthes aspera</i> L Andhijhara	Amaranthaceae	herb	AK548	Seed paste is used externally on infected part of skin
5.	<i>Alangium salvifolium</i> (L.f.)Wangerin Ankol	Cornaceae	Tree	AK886	Decoction of root is used skin diseases
6.	<i>Anogeissus latifolia</i> (Roxb. ex DC.)Wall ex Guil.& Perr. Dhawdo	Combretaceae	Tree	AK653	Burnt fruit powder is applied in scabies
7.	<i>Annona squamosa</i> L. Sitaphal	Annonaceae	tree	AK1161	Seed paste is used in skin diseases
8.	<i>Argemone mexicana</i> L. Pilikateri	Papavaraceae	Herb	Ak785	Leaf juice is applied xternally in scabies and ringworm
9.	<i>Aristolochia indica</i> L. Hukkabel	Aristolochiaceae	Climbing herb	AK590	Root powder is used is used in leucoderma
10.	<i>Barleria lawii</i> T. Anderson Chapari	Acanthaceae	Herb	AK1040	Leaf paste is used in skin diseases
11.	<i>Basella alba</i> L. Poibhaji	Basellaceae	Climbing herb	AK615	Leaf juice is used in Leprosy
12.	<i>Boswellia serrata</i> Roxb. ex Colebr. Salai	Burseraceae	Tree	AK 995	Stem paste is used in Leukoderma
13.	<i>Celastrus paniculata</i> Willd. Jangli mali	Celastraceae	Woody climber	AK 647	Root paste is used in Skin disorder
14	<i>Ceropegia bulbosa</i> Roxb. Khatumbra	Apocynaceae	Herb		Rhizome paste is used in boils
15.	<i>Cleome gynandra</i> L. Chourata	Cleomaceae	Herb	AK650	Leaf paste is used in Eczema
16	<i>Cyanthilliumcinereum</i> (L.)H.Rb.	Asteraceae	Herb	AK1170	Leaf paste is used in ringworm and eczema
17	<i>Dreggea volubilis</i>	Apocynaceae	Climbing	AK594	Leafdecoction is consumed

18	<i>Drimia indica</i> (Roxb.) Jessop Jangli kando	Asparagaceae	Herb	AK742	Leaf paste are used in eczema
19.	<i>Eclipta prostrata</i> (L.) L. Bhrangraj	Asteraceae	Herb	AK1013	Leaf paste in skin diseases
20.	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Shrub	AK690	Latex is used in scabies and eczema
21.	<i>Ficus racemosa</i> L. Gular	Moraceae	Tree	AK 763	Latex is used in Eczema
22.	<i>Gardenia latifolia</i> Papda	Rubiaceae	Tree	AK1100	Root paste is used in skin diseases
23.	<i>Grewia serrulata</i> DC. Dhaman	Malvaceae	Tree	AK853	Root decoction is used in skin diseases.
24.	<i>Helicteres isora</i> L. Marorphali	Malvaceae	Tree	AK842	Root juice is used in Scabies
25.	<i>Hemidesmus indicus</i> (L.) R.Br. Anantmul or Dudhi	Apocynaceae	Shrub	AK1018	Root paste is used in eczema
26	<i>Holoptelea integrifolia</i> Planch. Mojardhala	Ulmaceae	Tree	AK1022	Leaf juice is externally applied in ringworm and eczema
27.	<i>Jatropha curcas</i> L. Ratanjut	Euphorbiaceae	Tree	AK691	Crushed leaf is used externally in eczema and ringworm.
28	<i>Jatropha gossypifolia</i> L. Vilayti ratanjot	Euphorbiaceae	Tree	AK800	Leaf paste is applied on effected part in scabies and eczema.
29.	<i>Leea macrophylla</i> Roxb. ex Hornem Hathikand	Vitaceae	Shrub	AK1034	Root paste is applied externally in ringworm.
30	<i>Madhuca longifolia</i> var. <i>latifolia</i> (Roxb.) A. Chev.	Sapotaceae	Tree	AK742	Seed oil is applied on infected part of ringworm.
31.	<i>Luffa acutangula</i> (L.) Roxb. Kadvi tudai	Cucurbitaceae	Climber	AK666	Leaf paste is used in leprosy.
32.	<i>Moringa oleifera</i> Lam. Surjana	Moringiaceae	Tree	AK768	Leaf paste is externally applied in eczema and itching.
33.	<i>Mucuna pruriens</i> (L.) DC. Kevach	Apocynaceae	Climber	AK711	Leaf paste is applied externally on boil.
34.	<i>Nerium oleander</i> L. Kaner	Apocynaceae	Tree	AK1567	Flower bud and root paste is used in leprosy.
35	<i>Ocimum basilicum</i> L. Damra	Lamiaceae	Herb	AK 725	Leaf paste is used in general skin diseases.
36	<i>Milletia pinnata</i> (L.) Pierre	Fabaceae	Tree	AK 996	Seed oil is externally used in eczema
37	<i>Punica granatum</i> L. Aanar	Lythraceae	Tree	AK1020	Seed paste is applied externally in scabies
38	<i>Pergulia daemia</i> (Forssk.) Chiov. Panibel	Apocynaceae	Climber	AK991	Latex is used in ringworm
39	<i>Plumbago zeylanica</i> L. Chitrak	Plumbaginaceae	Herb	AK790	Leaf paste is administered externally in scabies, itching and ringworm
40	<i>Sauromatum venosum</i> (Dyand ex	Araceae	Tuberous herb	Ak824	Tuber paste is used in scabies

	Aiton)Kunth Bhaskrikand				
41	<i>Senna occidentalis</i> (L.)Link Badipowada	Fabaceae	Shrub	AK639	Root paste is applied in ringworm
42	<i>Solanum nigrum</i> L. Makai	Solanaceae	Herb	AK833	Leaf juice is used in Boils
43	<i>Tamarindus indica</i> L. Imli	Fabaceae	Tree	AK644	Leaf poltice is tied externally in boils
44	<i>Tinospora sinensis</i> (Lour.)Merr. Giloy	Menispermaceae	Climbers	AK755	Stem paste is used in leprosy
45	<i>Xanthium strumarium</i> L. Bichybuti	Asteraceae	Herb	AK612	Leaf paste is used in leuciderma