



SURVEY OF ETHNOBOTANICAL LITERATURE FROM TAMILNADU, INDIA, FOR PLANTS USED IN CURING SKIN AILMENTS

JAYAVEL RAJESH¹ | MUJEERA FATHIMA*²

¹ POST GRADUATE AND RESEARCH DEPARTMENT OF BOTANY, GOVERNMENT ARTS COLLEGE FOR MEN (AUTONOMOUS), NANDANAM, CHENNAI-600 035.

² POST GRADUATE AND RESEARCH DEPARTMENT OF BOTANY, GOVERNMENT ARTS COLLEGE FOR MEN (AUTONOMOUS), NANDANAM, CHENNAI-600 035.

ABSTRACT:

Ethnomedicine has been practiced since man evolved. It is the knowledge of medicine that was the sole proprietary of the indigenous people. Many of the herbal plants have become the source of wonder drugs that have become the cure for deadly diseases. In the recent times skin diseases have become very common and a proper cure is still wanting in modern medicine. The present study seeks to explore the traditional knowledge in published literature of 15 papers pertaining to tribal communities in Tamilnadu from 2006 to 2016. The survey revealed that the surveyed plants species were 68 and belonged to 37 families and 49 genera. The dominant part used was the leaf and mode of use was topical application.

KEYWORDS:

SURVEY, SKIN AILMENTS, ETHNOBOTANY, INDIGENOUS, TRADITIONAL KNOWLEDGE.

INTRODUCTION

Ethnomedicine is as old as mankind itself. Ever since man evolved he was confronted with the problem of disease and he solved it using herbal remedies. Such a knowledge had been the property of the indigenous people of the world who were primitive and lived in remote hilly regions. It was not possible to document this information in early times but with the advent of science and technology, systems are in place to document ethno medicinal information from the indigenous tribal population while giving them credit for the information provided.

Several surveys have been undertaken and the information gathered has been documented, validated and many herbs have become the sources of several life-saving drugs in modern medicine (Wang *et al.*, 2007). Review of literature for ethnomedicinal information has been earlier conducted and has been used to develop databases for ready reference and easy accessibility (Mughal *et al.*, 2013).

In our study we have focused on the ethnomedicinal information pertaining to skin diseases as this is a major problem seen in most people and since most of these are caused by fungi, a proper cure in modern medicine is still wanting. The commonest anti-fungal agent is fluconazole and this drug has effect only on prolonged usage and any lapse in usage leads to recurrence of the infection.

Hence an ethnomedicinal literature survey focused on curing of skin ailments has been undertaken and the data obtained has been analysed to get an understanding of the herbal sources that have been named by the indigenous

people of Tamilnadu, India.

MATERIALS AND METHODS

In the present investigation an attempt has been made to survey the ethnobotanical literature from 2006 to 2016 with reference to tribal communities in Tamilnadu, India. The information collected has been tabulated and sorted to get an idea of the different herbs used by the tribal communities to cure the common skin diseases affecting human kind. The data was analysed based on families, genera, habit and part used. Method of preparation and mode of administration was also analysed.

RESULTS AND DISCUSSION

The survey when consolidated revealed that 68 different plants have been named by tribals of tamilnadu (Table: 1) in 15 published papers. Some of these plants were reported by more than one author and on further consolidation 53 unique plant species have been listed for use in skin ailments.

The plants belonged to 37 different families and 49 different genera. The highest number of species occurred in Euphorbiaceae, Mimosaceae and Papilionaceae (Fabaceae) while many families showed only one species (Figure: 1 and 2). The listed plants had varied habits ranging from herbs, shrubs, trees, climbers, creepers, underherbs, twiners, root parasite and woody climbers of these 17 were herbs followed by trees 14 species while 10 were shrubs. Root parasite and woody climbers were 1 species each (Figure: 3).

The mode of preparation of medication showed use of leaves as the major part (48%) followed by Flower (9%), whole plant, seed and bark (8% each) next to which come

root and fruit (Table: 2, Figure: 4).

The mode of administration was found to be mostly topical application and oral administration was not common. Hence validation of the listed plants for skin ailments with reference to antimicrobial and antifungal activity will pave the way to find novel drugs that can be used as effective ointments to solve the problem of skin infections.

Similar studies have been conducted by Mughal *et al.*, (2013) and A. L. Ososki (2002) where ethnobotanical literature has been surveyed and plants used for a particular ailment have been listed. The results obtained in our study have six species in common with the compilation of Mughal *et al.*, (2013) such as *Achyranthes aspera* Linn., *Lawsonia inermis* Linn., *Lippia javanica*, *Solanum nigrum* L., *Asparagus racemosus* Willd. and *Clitoria ternatea* Linn. Of the other listed plants six were also found in the reports of Sundari and Jayakumararaj (2020) such as *Acacia leucophloea* (Roxb.) Willd., *Acalypha indica* L., *Azadirachta indica* A. Juss., *Euphorbia hirta* L., *Heliotropium*

indicum L., *Phyla nodiflora* (L.) Greene. and seven were in common with Aadhan and Parvathi (2019) which are listed as follows: *Abelmoschus esculentus* (L.) Moench., *Acalypha indica* L., *Achyranthes aspera* L., *Asparagus racemosus* Willd., *Azadirachta indica* A. Juss., *Euphorbia hirta* L. and *Pongamia pinnata* (L.) Pierre.

On the whole our compilation has 14 species in common with the other compilations and recent literature. The rest of the species are special candidate herbs used in skin ailments. Thus in the present investigation herbs containing the potential to cure skin diseases were listed by surveying existing literature and a profile of these plants has been obtained. The study is a preliminary attempt at compiling the available data from literature pertaining to tribal communities of Tamilnadu only and out of this 53 unique plants have been identified that could be used to explore the possibilities of coming out with drugs that could effectively cure skin diseases.

TABLE: 1 - ETHNOMEDICINAL PLANTS USED FOR SKIN DISEASES WITH SOURCE PAPER

| S.NO | BOTANICAL NAME | FAMILY | VERNACULAR NAME | SOURCE PAPER |
|------|---|------------------|---------------------------|--------------------------------------|
| 1 | <i>Acacia farnesiana</i> (Linn.) Willd. | Mimosaceae | Kasthuri velan | Murugan <i>et al.</i> , 2006 |
| 2 | <i>Acacia leucophloea</i> (Roxb.) Wild. | Mimosaceae | Vellavelan | M. Anbazhagan <i>et al.</i> , 2014 |
| 3 | <i>Acalypha fruticosa</i> Forsskal. | Euphorbiaceae | Chinni chedi | S Ignacimuthu <i>et al.</i> , 2006 |
| 4 | <i>Acalypha indica</i> L. | Euphorbiaceae | Kuppaimeni | J.Deepa and K.Saravanakumar, 2013 |
| 5 | <i>Achyranthus aspera</i> (<i>Achyranthes aspera</i> L.) | Amaranthaceae | Nayuruvi | A. Anjalam <i>et al.</i> , 2014 |
| 6 | <i>Alangium salvifolium</i> (L.f.) Wang. (<i>Alangium salviifolium</i> (L.f.) Wangerin) | Alangiaceae | Alangil | Kuru Suresh <i>et al.</i> , 2011 |
| 7 | <i>Alangium salvifolium</i> (L.f.) Wang. (<i>Alangium salviifolium</i> (L.f.) Wangerin) | Alangiaceae | Alangil | M. Ghouse Basha <i>et al.</i> , 2013 |
| 8 | <i>Albizia thompsonii</i> Brandis | Mimosaceae | Velugu Chinta | M. Ghouse Basha <i>et al.</i> , 2013 |
| 9 | <i>Anisochilus carnosus</i> (L.f.) Wallich. | Lamiaceae | Saeththupun thazhai | S Ignacimuthu <i>et al.</i> , 2006 |
| 10 | <i>Annona reticulata</i> L. | Annonaceae | Ram-sitapalam | C. Alagesaboopathi, 2009 |
| 11 | <i>Argemone mexicana</i> L. | Papaveraceae | Premathandu | Kingston <i>et al.</i> , 2009 |
| 12 | <i>Aristolochia indica</i> L. | Aristolochiaceae | Urikakodi | S Karuppusamy, 2007 |
| 13 | <i>Asparagus racemosus</i> Willd. | Liliaceae | To be written as one word | Kingston <i>et al.</i> , 2009 |
| 14 | <i>Azadirachta indica</i> (<i>Azadirachta indica</i> A.Juss.) | Meliaceae | Vembu | A. Anjalam <i>et al.</i> , 2014 |
| 15 | <i>Balanophora fungosa</i> Fors and Fors. var. indica. | Balanophoraceae | Vaer chedi | S Ignacimuthu <i>et al.</i> , 2006 |
| 16 | <i>Boswellia serrata</i> Roxb. | Burseraceae | Vellai kunkilium | M. Ghouse Basha <i>et al.</i> , 2013 |
| 17 | <i>Boswellia serrata</i> Roxb.ex Colebr. | Burseraceae | Vellaikunkilium | Kuru Suresh <i>et al.</i> , 2011 |
| 18 | <i>Cassia auriculata</i> Linn. | Caesalpiniaceae | Avarai | Kingston <i>et al.</i> , 2009 |
| 19 | <i>Cassia tora</i> L. | Caesalpiniaceae | Thagarai | M. Anbazhagan <i>et al.</i> , 2014 |
| 20 | <i>Cassia tora</i> (<i>Cassia tora</i> L.) | Caesalpiniaceae | Thagarai | A. Anjalam <i>et al.</i> , 2014 |
| 21 | <i>Chenopodium ambrosioides</i> L. | Chenopodiaceae | Kattuumam | Kuru Suresh <i>et al.</i> , 2011 |
| 22 | <i>Chenopodium ambrosioides</i> , L. | Chenopodiaceae | Kattu oomam | M. Ghouse Basha <i>et al.</i> , 2013 |

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|----|--|-----------------|---------------------|--|
| 23 | <i>Chloris barbata</i> L. | Poaceae | Pullu | M. Senthil kumar <i>et al</i> , 2016 |
| 24 | <i>Chloris barbata</i> SW. | Poaceae | Grass | C. Alagesaboopathi, 2009 |
| 25 | <i>Chloris barbata</i> SW. | Poaceae | Grass | Kannadhasan M <i>et al</i> , 2016 |
| 26 | <i>Cissus quadrangularis</i> L. | Vitaceae | Perandai | Francisca Govindasamy Bosco and Rajendran Arumugam, 2012 |
| 27 | <i>Cissus quadrangularis</i> L. | Vitaceae | Perandai | Kannadhasan M <i>et al</i> , 2016 |
| 28 | <i>Citrus limon</i> (L.) Burm. f. | Rutaceae | Elumichai | M. Anbazhagan <i>et al</i> , 2014 |
| 29 | <i>Clematis gouriana</i> Roxb. Ex. DC. | Ranunculaceae | Attumeesai chedi | S Ignacimuthu <i>et al</i> , 2006 |
| 30 | <i>Clerodendron inerme</i> Gaertn. (<i>Clerodendrum inerme</i> (L.) Gaertn) | Verbenaceae | Changukuppy | Kingston <i>et al</i> , 2009 |
| 31 | <i>Clitoria ternate</i> L. Burm (<i>Clitoria ternatea</i> L.) | Fabaceae | Sangu Pushpam | P. Sundaramoorthy <i>et al</i> , 2011 |
| 32 | <i>Commiphora caudata</i> Engl. | Burseraceae | Malaikiluvai | S Karuppusamy, 2007 |
| 33 | <i>Cynodon dactylon</i> (L.) Pers. | Poaceae | Arukampullu | Kingston <i>et al</i> , 2009 |
| 34 | <i>Eclipta alba</i> (L.) Hassk. | Asteraceae | Karisilanganni | P. Sundaramoorthy <i>et al</i> , 2011 |
| 35 | <i>Euphorbia hirta</i> Linn. | Euphorbiaceae | Ammanpaccharisi | Kingston <i>et al</i> , 2009 |
| 36 | <i>Excoecaria crenulata</i> L. | Euphorbiaceae | Vellai thillai | S Ignacimuthu <i>et al</i> , 2006 |
| 37 | <i>Ficus glomerata</i> Linn. | Moraceae | Athi | S Karuppusamy, 2007 |
| 38 | <i>Ficus religiosa</i> L. | Moraceae | Arashamaram | C. Alagesaboopathi, 2009 |
| 39 | <i>Ficus religiosa</i> L. | Moraceae | Arashamaram | Kannadhasan M <i>et al</i> , 2016 |
| 40 | <i>Gloriosa superba</i> L. | Liliaceae | Kalappaihkilangu | M. Anbazhagan <i>et al</i> , 2014 |
| 41 | <i>Heliotropium indicum</i> L. (<i>Heliotropium indicum</i> L.) | Boraginaceae | Thekkodukku | P. Sundaramoorthy <i>et al</i> , 2011 |
| 42 | <i>Hibiscus abelmoschus</i> L. | Malvaceae | Kasturi vendai | Kannadhasan M <i>et al</i> , 2016 |
| 43 | <i>Hibiscus abelmoschus</i> Linn | Malvaceae | Kasturivendai | M. Anbazhagan <i>et al</i> , 2014 |
| 44 | <i>Hygrophila auriculata</i> (Schum.) Heine. | Acanthaceae | Neermulli | Kingston <i>et al</i> , 2009 |
| 45 | <i>Indigofera aspalathoides</i> Vahl. | Fabaceae | Sivanar vembu | M. Senthil kumar <i>et al</i> , 2016 |
| 46 | <i>Ipomoea carnea</i> Jacq. | Convolvulaceae | Nyveli kaattamanaku | M. Senthil kumar <i>et al</i> , 2016 |
| 47 | <i>Lawsonia inermis</i> L. | Lythraceae | Marithondi | Mishra S.B <i>et al</i> , 2008 |
| 48 | <i>Lawsonia inermis</i> L. | Lythraceae | Maruthondri | Murugan <i>et al</i> , 2006 |
| 49 | <i>Lippia nodiflora</i> Mich. | Verbenaceae | Poduthalai | C. Alagesaboopathi, 2009 |
| 50 | <i>Lippia nodiflora</i> Mich. | Verbenaceae | Poduthalai | Kannadhasan M <i>et al</i> , 2016 |
| 51 | <i>Lobelia heyneana</i> Roem. & Schult. | Lobeliaceae | Upperi chedi | S Ignacimuthu <i>et al</i> , 2006 |
| 52 | <i>Madhuca longifoila</i> (L.) JFMacbr. | Sapotaceae | Ellupai | M. Anbazhagan <i>et al</i> , 2014 |
| 53 | <i>Madhuca longifolia</i> (Koenig) Macbride. | Sapotaceae | Eluppai | Kingston <i>et al</i> , 2009 |
| 54 | <i>Madhuca longifolia</i> (<i>Madhuca longifolia</i> (J.Koenig ex L.) J.F.Macbr.) | Sapotaceae | Ellupai | A. Anjalam <i>et al</i> , 2014 |
| 55 | <i>Mahonia leschenaultii</i> (Wight & Arn.) Tak. ex Gamble | Berberidaceae | Mullu kadambu | S Ignacimuthu <i>et al</i> , 2006 |
| 56 | <i>Memecylon umbellatum</i> Burm. | Melastomataceae | Sarkarai vilvam | M. Ghouse Basha <i>et al</i> , 2013 |
| 57 | <i>Naravelia zeylanica</i> DC. | Ranunculaceae | Vatamkolli | M. Ghouse Basha <i>et al</i> , 2013 |
| 58 | <i>Pongamia pinnata</i> (L.) (Pierre) | Fabaceae | Pungaimaram | M. Senthil kumar <i>et al</i> , 2016 |
| 59 | <i>Pongamia pinnata</i> L. | Papilionaceae | Pungai | P. Sundaramoorthy <i>et al</i> , 2011 |
| 60 | <i>Pouzolzia cymosa</i> , W. | Urticaceae | All vanangi | M. Ghouse Basha <i>et al</i> , 2013 |
| 61 | <i>Rhinacanthus communis</i> (<i>Rhinacanthus communis</i> Nees) | Acanthaceae | Nagamalli | A. Anjalam <i>et al</i> , 2014 |

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|----|--|---------------|-----------------------------------|---------------------------------------|
| 62 | <i>Solanum nigrum</i> L. | Solanaceae | Manattakkali | C. Alagesaboopathi, 2009 |
| 63 | <i>Solanum nigrum</i> L. | Solanaceae | Manattakkali. | Kannadhasan M et al, 2016 |
| 64 | <i>Sonchus oleraceus</i> L. | Asteraceae | Karpooravalli (Varapputhannal) | M. Anbazhagan <i>et al</i> , 2014 |
| 65 | <i>Tabernamontana divaricata</i> L. (<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roem. & Schult.) | Apocynaceae | Nandhyavattai | P. Sundaramoorthy <i>et al</i> , 2011 |
| 66 | <i>Tarenna asiatica</i> (L.) Kuntze ex K.Schum. | Rubiaceae | Therani | M. Senthil kumar <i>et al</i> , 2016 |
| 67 | <i>Terminalia bellirica</i> (Gaertn.) Roxb. | Combretaceae | Thaanthi maram | M. Senthil kumar <i>et al</i> , 2016 |
| 68 | <i>Trichosanthes dioica</i> Roxb. | Cucurbitaceae | Kambupudalai | M. Senthil kumar <i>et al</i> , 2016 |

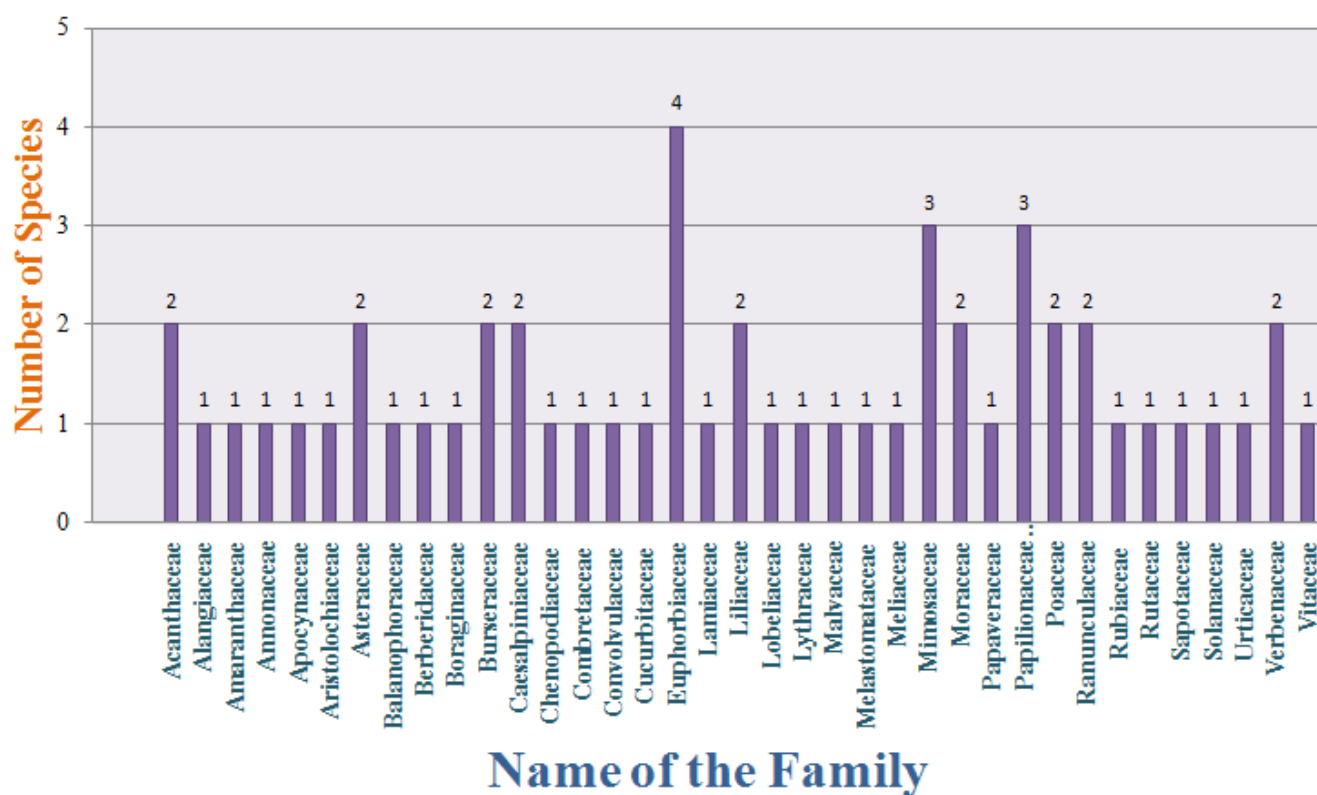
TABLE: 2- METHOD OF PREPARATION AND MODE OF ADMINISTRATION OF ETHNOMEDICINAL PLANTS USED FOR SKIN DISEASES

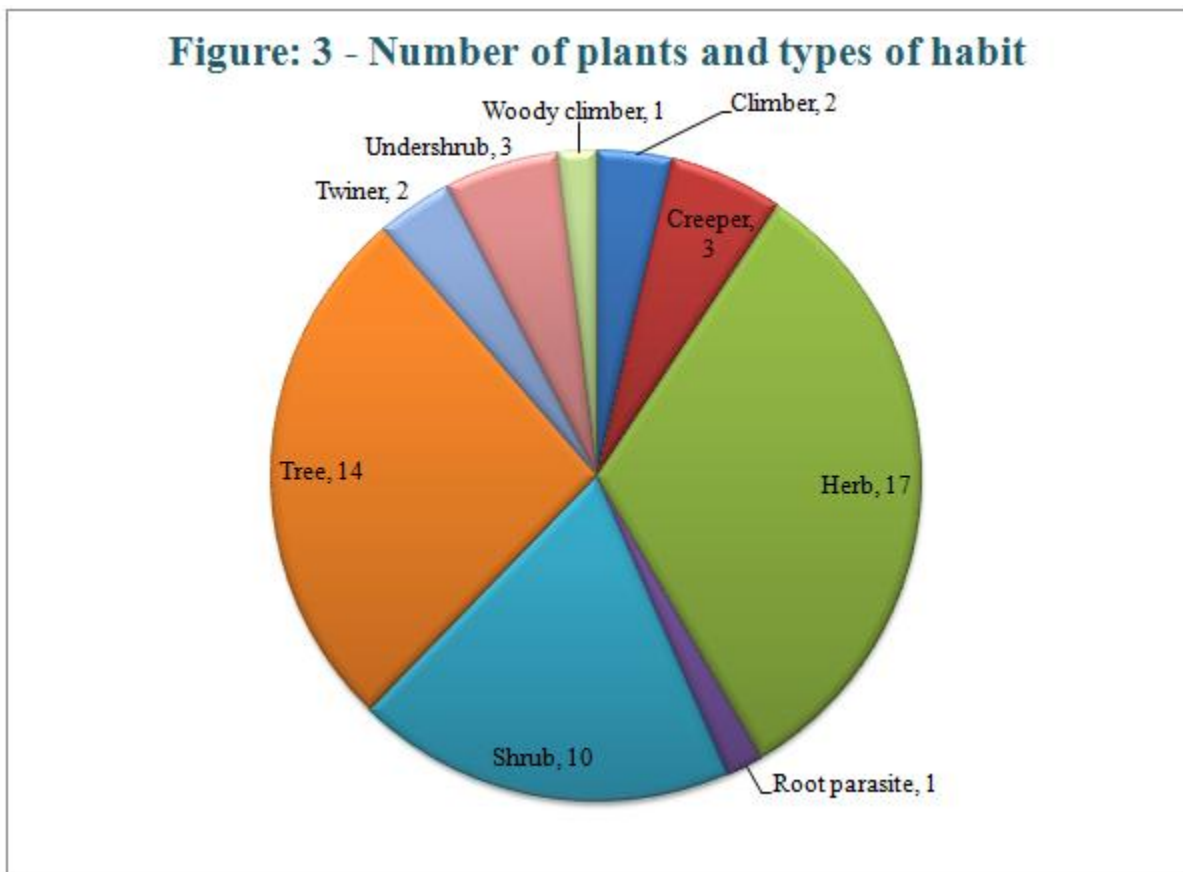
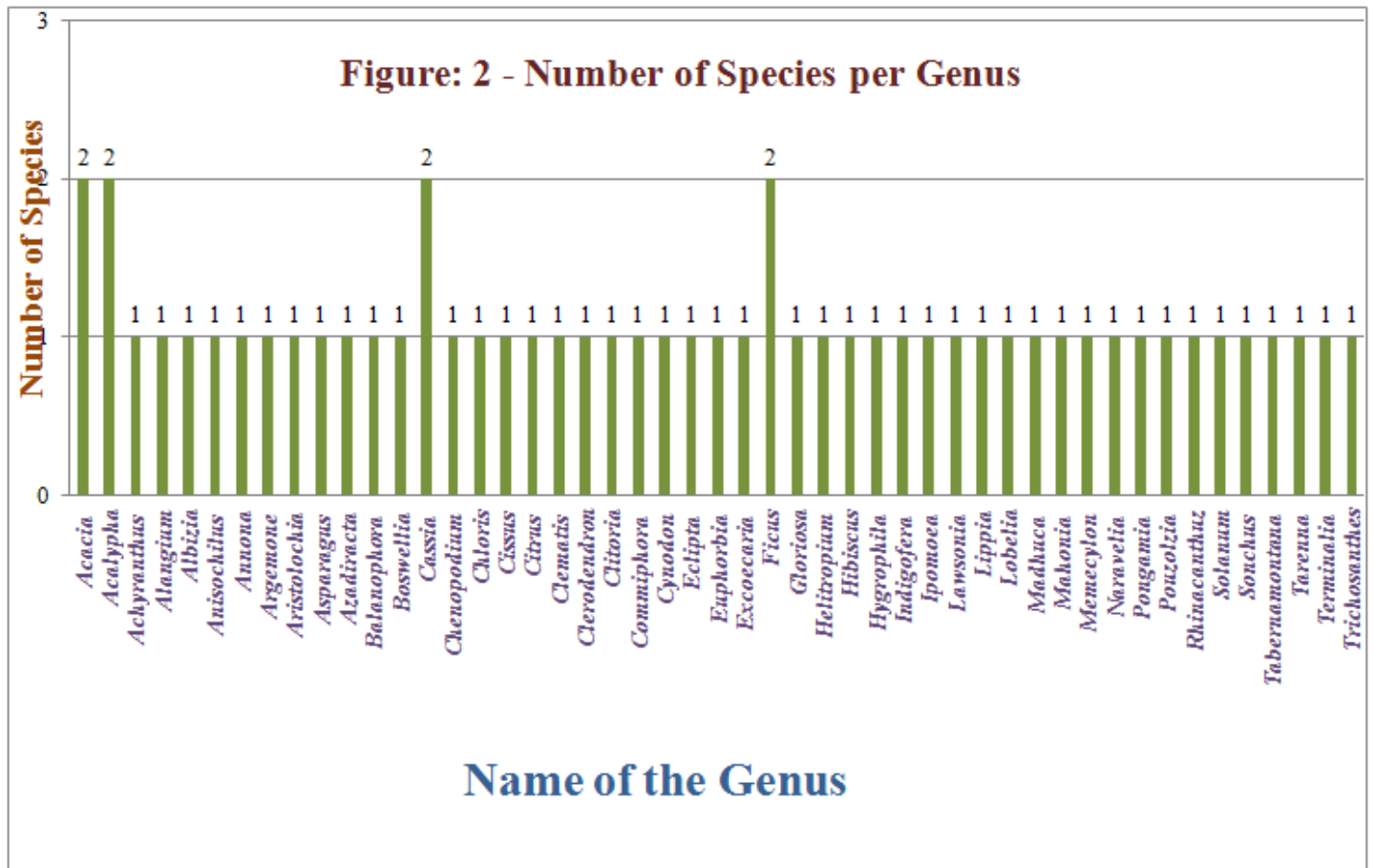
| S.NO | BOTANICAL NAME | METHOD OF PREPARATION | MODE OF ADMINISTRATION |
|------|---|--|--|
| 1 | <i>Acacia farnesiana</i> (Linn.) Willd. | Bark decoction | Taken orally. |
| 2 | <i>Acacia leucophloea</i> (Roxb.) Wild. | Bark paste | Applied topically on the affected places. |
| 3 | <i>Acalypha fruticosa</i> Forsskal. | Leaf and root paste | Applied topically on the affected places. |
| 4 | <i>Acalypha indica</i> L. | Leaves fried in castor oil | Applied externally to get relieve from skin diseases. |
| 5 | <i>Achyranthus aspera</i> (<i>Achyranthes aspera</i> L.) | Leaf paste | Applied topically on the affected places. |
| 6 | <i>Alangium salvifolium</i> (L.f.) Wang. (<i>Alangium salviifolium</i> (L.f.) Wangerin) | Root bark paste | Root bark applied externally for skin disease. |
| 7 | <i>Alangium salvifolium</i> (L.f.) Wang. (<i>Alangium salviifolium</i> (L.f.) Wangerin) | Root bark paste | Root bark applied externally |
| 8 | <i>Albizia thompsonii</i> Brandis | Stem bark paste and Leaf paste | Used as an external application. |
| 9 | <i>Anisochilus carnosus</i> (L.f.) Wallich. | Leaf paste | Applied over the affected places. |
| 10 | <i>Annona reticulata</i> L. | Decoction of the bark and Fruit juice | Decoction of the bark is useful in astringent and tonic. Fruit juice given orally as vermifuge. |
| 11 | <i>Argemone mexicana</i> L. | Pounded seeds along with rhizomes of <i>Curcuma aromatica</i> and <i>Acorus calamus</i> made into paste. | Applied on all kinds of skin diseases twice a day till recovery. |
| 12 | <i>Aristolochia indica</i> L. | Leaf paste | Applied on the body to prevent skin diseases. |
| 13 | <i>Asparagus racemosus</i> Willd. | Tuber along with the leaves of <i>Plumbago indica</i> made into paste. | Applied on skin once a day till cured. |
| 14 | <i>Azadiracta indica</i> (<i>Azadirachta indica</i> A.Juss.) | Leaf paste | Applied topically on the affected places. |
| 15 | <i>Balanophora fungosa</i> Fors and Fors. var. <i>indica</i> . | Paste of the whole plant | Applied over the infected part of the skin. |
| 16 | <i>Boswellia serrata</i> Roxb. | Leaf juice | Applied externally. |
| 17 | <i>Boswellia serrata</i> Roxb.ex Colebr. | Leaf juice | Applied externally. |
| 18 | <i>Cassia auriculata</i> Linn. | Dried leaf paste in vinegar. | Applied on skin diseases once a day till cured. |
| 19 | <i>Cassia tora</i> L. | Leaf and seed paste | Applied externally. |
| 20 | <i>Cassia tora</i> (<i>Cassia tora</i> L.) | Leaf and seed paste | Applied externally. |
| 21 | <i>Chenopodium ambrosioides</i> L. | Leaf juice | Applied externally. |
| 22 | <i>Chenopodium ambrosioides</i> , L. | Leaf juice | Applied externally. |
| 23 | <i>Chloris barbata</i> L. | Whole plant juice | Taken internally. |

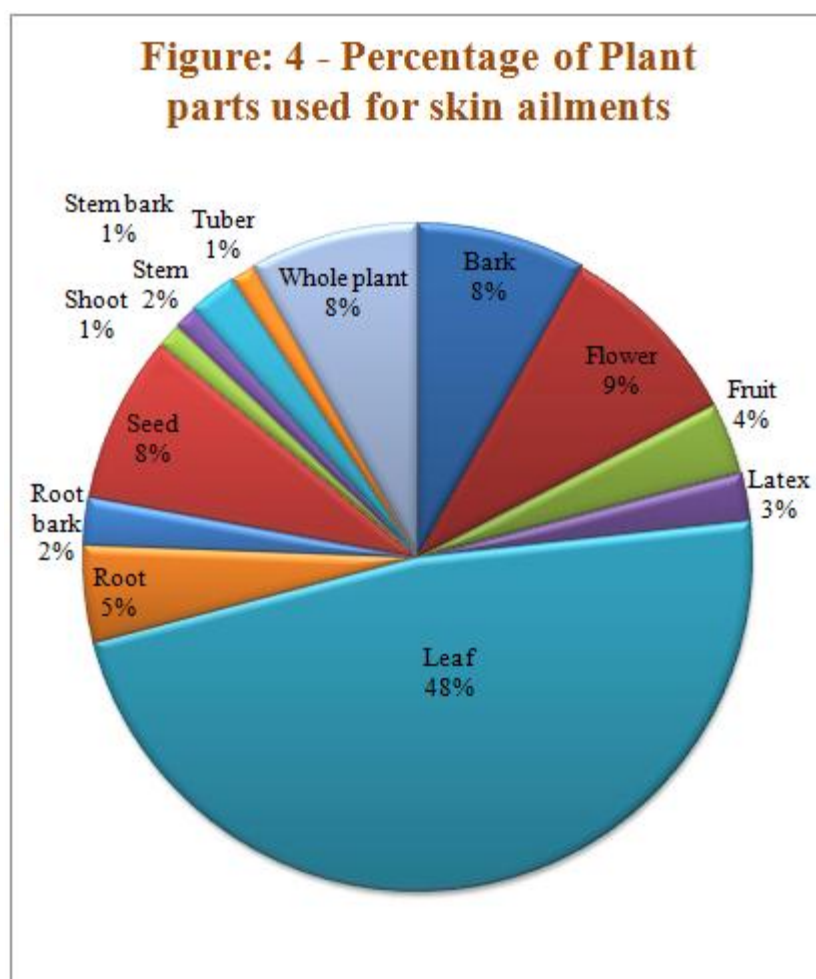
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| 24 | <i>Chloris barbata</i> SW. | Leaves paste | Applied externally. |
| 25 | <i>Chloris barbata</i> SW. | Leaves paste | Applied externally. |
| 26 | <i>Cissus quadrangularis</i> L. | Leaves grind into paste. | Applied externally. |
| 27 | <i>Cissus quadrangularis</i> L. | Whole plant extract | Taken orally. |
| 28 | <i>Citrus limon</i> (L.) Burm. f. | Ripe skin | Applied topically |
| 29 | <i>Clematis gouriana</i> Roxb. Ex. DC. | Leaves paste | Applied topically on affected part of the skin. |
| 30 | <i>Clerodendron inerme</i> Gaertn. (<i>Clerodendrum inerme</i> (L.) Gaertn) | Leaf juice mixed with bee wax, resins of <i>Vateria indica</i> and seeds of <i>Nigella sativa</i> , made into a paste is kept in a hot water bath and cooled before use. | It is applied once a day before bed time till the recovery. |
| 31 | <i>Clitoria ternate</i> L. Burm (<i>Clitoria ternatea</i> L.) | Leaf extract | Taken internally. |
| 32 | <i>Commiphora caudata</i> Engl. | Pericarp of fruit | Eaten to cure dry skin. |
| 33 | <i>Cynodon dactylon</i> (L.) Pers. | Pounded leaves boiled in coconut oil. | It is applied once a day till the cure. |
| 34 | <i>Eclipta alba</i> (L.) Hassk. | Leaf extract | Applied topically. |
| 35 | <i>Euphorbia hirta</i> Linn. | Latex | Applied externally twice a day till cured. |
| 36 | <i>Excoecaria crenulata</i> L. | Stem paste | It is applied on the affected part of the skin. |
| 37 | <i>Ficus glomerata</i> Linn. | Latex | Applied on the skin to treat common infections. |
| 38 | <i>Ficus religiosa</i> L. | Leaves paste | Applied externally. |
| 39 | <i>Ficus religiosa</i> L. | Leaves paste | Applied externally. |
| 40 | <i>Gloriosa superba</i> L. | Leaf powder | Applied topically |
| 41 | <i>Heliotropium indicum</i> L. (<i>Heliotropium indicum</i> L.) | Leaf juice | Taken internally. |
| 42 | <i>Hibiscus abelmoschus</i> L. | Flower paste | Applied externally. |
| 43 | <i>Hibiscus abelmoschus</i> Linn | Flower paste | Applied externally. |
| 44 | <i>Hygrophila auriculata</i> (Schum.) Heine. | Dried leaf powder mixed with castor oil. | It is applied twice a day till the recovery on the affected parts. |
| 45 | <i>Indigofera aspalathoides</i> Vahl. | Whole plant ash added in coconut oil. | Applied topically. |
| 46 | <i>Ipomoea carnea</i> Jacq. | Decoction of the root and shoot | Taken internally. |
| 47 | <i>Lawsonia inermis</i> L. | Paste of leaf, flower and seed | Applied topically. |
| 48 | <i>Lawsonia inermis</i> L. | Decoction of bark and leaf | Applied topically. |
| 49 | <i>Lippia nodiflora</i> Mich. | Decoction of the whole plant | Taken internally. |
| 50 | <i>Lippia nodiflora</i> Mich. | Decoction of the whole plant | Taken internally. |
| 51 | <i>Lobelia heyneana</i> Roem. & Schult. | Paste of leaf and flower | Applied topically. |
| 52 | <i>Madhuca longifoila</i> (L.) JFMacbr. | Leaf paste | Applied topically. |
| 53 | <i>Madhuca longifolia</i> (Koenig) Macbride. | Pounded seeds mixed with leaf extract of <i>Ocimum tenuiflorum</i> . | Applied on the affected parts twice a day. |
| 54 | <i>Madhuca longifolia</i> (<i>Madhuca longifolia</i> (J.Koenig ex L.) J.F.Macbr.) | Leaf paste | Applied topically. |
| 55 | <i>Mahonia leschenaultii</i> (Wight & Arn.) Tak. ex Gamble | Powdered stem bark is boiled with gingelly oil. | Applied over the body before bath. |
| 56 | <i>Memecylon umbellatum</i> Burm. | Leaf paste | Applied topically. |
| 57 | <i>Naravelia zeylanica</i> DC. | Leaf juice | Applied topically. |
| 58 | <i>Pongamia pinnata</i> (L.) (Pierre) | Leaf extract | Applied over the affected area. |

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|----|--|--|--------------------------------|
| 59 | <i>Pongamia pinnata</i> L. | Leaves, bark, flower and seed extract. | Applied topically. |
| 60 | <i>Pouzolzia cymosa</i> , W. | Leaf decoction along with leaves of <i>Naravelia zeylanica</i> and <i>Cassia senna</i> is heated with water. | Used to take bath for 30 days. |
| 61 | <i>Rhinacanthus communis</i> (<i>Rhinacanthus communis</i> Nees) | Leaf juice and seed powder used as a paste. | Topical application. |
| 62 | <i>Solanum nigrum</i> L. | The leaf and flower juice mixed with salt and black pepper. | Taken internally. |
| 63 | <i>Solanum nigrum</i> L. | The leaf and flower juice mixed with salt and black pepper. | Taken internally. |
| 64 | <i>Sonchus oleraceus</i> L. | Leaf paste | Applied topically. |
| 65 | <i>Tabernamontana divaricata</i> L. (<i>Tabernaemontana divaricata</i> (L.) R.Br. ex Roem. & Schult.) | Flower extract | Applied topically. |
| 66 | <i>Tarenna asiatica</i> (L.) Kuntze ex K.Schum. | Root juice | Applied topically. |
| 67 | <i>Terminalia bellirica</i> (Gaertn.) Roxb. | The bark and root are grind and took extract. | Applied topically. |
| 68 | <i>Trichosanthes dioica</i> Roxb. | Whole plant extract | Applied externally. |

Figure: 1 - Number of Species per Family







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