



Some traditional herbal formulations in the treatment of rheumatism from Jalgaon district, Maharashtra

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Abstract

Information on 91 plant species used especially for the treatment of rheumatism, arthritis and general with such complaints by rural and tribal communities of Jalgaon district, Maharashtra is presented in this paper. The paper reveals utilization of 90 species of flowering plants belonging to 83 genera of 47 families. Besides, one fern is recorded for ethnobotanical purpose. Of these, 42 families are of dicotyledoneae class while 4 belong to monocotyledoneae and 1 to pteridophytes. Brief information about the plant / plant parts used, botanical names, local names, distribution, families and the mode of preparation of drugs have been presented. As the traditional herbal remedies are based on ancestral knowledge and empiric experiences, this type of ethno-medicinal survey appeared to be useful for the research on medicinal plants for the betterment of mankind.

Key words: Rheumatism, Medicinal plants, Jalgaon district.

1. Introduction

Rheumatism (ROO-ma-tizm) is any painful disorder of the supporting structures of the body- bones, ligaments, tendons or muscles. Arthritis is a form of rheumatism in which the joints are swollen, stiff and painful. It is a chronic multisystem disease of unknown cause. Rheumatism and arthritis is a common disease affecting large population. Rheumatoid arthritis is a common disease having peak incidence in 3rd to 4th decades of life, with

3-5 times higher preponderance in females. In the treatment of rheumatism and arthritis allopathic medicine steroids are used which are having considerable side effects. The advent of time depicts the increasing use of medicinal plants as scientifically proved, potent remedies without side effects and toxicity. Jalgaon district, a part of Deccan plateau is situated on northern border of the Maharashtra state, with an area of 11640.05 sq.km between 20° and

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21° north latitudes, and 74° 55' and 76° 28' east longitudes. The major part of the district is predominately inhabited by rural population. However, the ethnic tribes such as Bhils, Pawara, Pardhi, Wanjari, Tadwi etc. inhabiting in Raver and Chopda tahsils of the said district have their own dialects.

The district is largely remained unexplored as regards its medico-botanical studies. Except some sporadic reports on some edible and medicinal plants and their uses in floristic studies (Shisode and Patil, 1993; Kshirsagar and Patil, 1998; Pawar and Patil, 2000 and Bhadane *et al.*, 2006). Keeping in view the scope of search for ethnic knowledge, especially ethnomedicinal one, the present survey was undertaken. The present study throws light on unpublished information regarding the less known medicinal uses of locally available 91 plant species to treat problems related to rheumatism and arthritis.

2. Material and Methods

The survey of all 13 tahsils of Jalgaon district was conducted during 2000-2006. The desired information regarding plant /plant part used medicinally was collected during field trips on the basis of interview with the tribals and local people. By repeated enquiries, changing the pattern of questioning like showing the plant collected from one tribal healer/ rural people to another of a distinct locality and asking him for its use as medicine and vice-versa. The mode of making the formulations and their application in each case was minutely recorded. Voucher specimen were collected, processed as per routine herbarium methods, identification of collected plant material were made either in the field itself or in laboratory following the district and state floras (Hooker, 1872- 1897; Cook, 1903), given accession numbers and deposited in the department of Botany, Pratap College, Amalner-425401, (M.S.), India.

Under the enumeration the plant species are arranged in alphabetical order, which include correct botanical names, family, local names, distribution, place of collection, voucher numbers and their ethnobotanical information.

Enumeration

Abrus precatorius L. (Fabaceae, *Gunj*), Common, Chopda, VVB-216.

The paste of leaves with some common salt is mixed with mustard oil and applied over inflamed part in lukewarm form to relieve the patient from local pains and inflammation.

Abutilon indicum L. (Malvaceae, *Mudra*), Yawal, VVB-552.

Lukewarm poultice prepared from the bark and applied on joints to get relief from softened inflamed joints.

Acalypha indica L. (Euphorbiaceae, *Khokali*), Very Common, Nimbol, VVB-525.

Decoction of leaves is given internally in rheumatism while poultice used externally on swelling of joints.

Adhatoda vasica Ness. (Acanthaceae, *Adulsa*), Chopda, GGP-216.

Decoction of the leaves along with ginger powder taken empty stomach cures rheumatic pains and fever.

Adiantum philipense L. (Adiantaceae, *Hansraj*), Common, Yawal, VVB- 114.

Infusion of whole plant relieves the patient from inflammation of joints in arthritis.

Agave vera-cruz Mill. (Amaryllidaceae, *Kektad*), Very Common, Lon, VVB- 415.

Leaf juice as well as leaf powder taken internally and paste of dried leaves applied externally in the inflammation of joints and swelling respectively.

Ageratum conyzoides (Asteraceae, *Osadi*), Very Common, Amalner, VVB-351.

Decoction of inflorescence used in inflammation of joints, gout and in rheumatic fever.

Albizia lebbek (L.) Willd (Mimosaceae, *Shirish*), Common, Khiroda, VVB-97.

The flower juice applied externally on swellings of joints while regular intake of seed powder with jaggery relieves the patient from rheumatism.

Allium cepa L. (Liliaceae, *Kanda*), Savda, VVB-842.

Bulb juice mixed with little honey applied externally on affected part reduces swelling and burning sensation.

Aloe vera (L.) Burm.f. (Liliaceae, *Korphad*), Common, Pachora, VVB-84.

The pulp of leaves applied on swollen joints to get relief. The same pulp mixed with little honey and black pepper is also taken for the same purpose.

Alstonia scholaris R. Br. (Apocynaceae, *Saptarni*), Palziri, GGP-327.

Latex of the plant is used as poultice in treatment of rheumatic swelling.

Amaranthus tricolour L. (Amaranthaceae, *Chaulai*), Common, Mamurabad, GGP-916.

Whole plant paste applied on painful joints to reduce the inflammation.

Ammannia baccifera L. (Lythraceae, *Bharajambhula*), Amalner, VVB-678.

Decoction with ginger is given orally in rheumatic fever while pounded fresh leaves are applied on swollen joints.

Aristolochia indica L. (Aristolochiaceae, *Sapsan*), Uncommon, Dharngaon, VVB-594.

Seed decoction given internally takes care of inflamed joints.

Asparagus racemosus Willd (Liliaceae, *Shatawari*), Chopda, GGP-195.

Cooked tubers given in chronic rheumatism while the paste of leaves with common salt is applied on joints to reduce oedema.

Asphodelus tenuifolius Cav (Liliaceae, *Bokat*), Common, Nagziri, VVB-467.

Lukewarm paste of seed powder is applied on inflammation of joints.

Azadirachta indica A. Juss. (Meliaceae, *Kadu limb*), Yawal, GGP-552.

External application of paste of crushed seeds is useful in sensitive inflammation of joints.

Bacopa monnieri (L.) Wettstein (Scrophulariaceae, *Nira-brahmi*), Common, Manudevi, VVB-193.

Pounded leaves are applied locally to get relief from painful rheumatism while decoction of whole herb taken empty stomach in arthritis.

Baliospermum montanum (Wild) Muell. (Euphorbiaceae, *Danti, Jamalgota*), Rare, Pal, GGP-357.

Local application of seed paste reduces swelling in rheumatism.

Bassella rubra L. (Bassellaceae, *Poi*), Pal, VVB-813.

Leaf juice with ginger given internally to treat rheumatic fever and inflammation of affected parts.

Bassia latifolia Roxb. (Sapotaceae, *Moha*), Common, Yawal, GGP-689.

Decoction of bark given internally and milky latex is applied locally to get relief from rheumatic pains.

Boerhavia diffusa L. (Nyctaginaceae, *Punernava*), Adawad, VVB-842.

Decoction of whole plant given internally to treat painful joints.

Bombax ceiba L. (Bombacaceae, *Katesavari*), Common, Umala, VVB-193.

Decoction of stem and root bark given internally reduces swellings and increases mobility of the joints.

Caesalpinia bonduc L. (Caesalpinaceae, *Gajga*), Common, Mamurabad, GGP-350.

Decoction of root bark is given internally in rheumatism.

Cajanus cajan (L.) Millsp (Fabaceae, *Tur*), Chopda, VVB-378.

Decoction of tender shoots and pods given internally in rheumatism.

Calotropis procera (Ait.) R. Br. (Asclepiadaceae, *Ruchki*), Very Common, Amalner, GGP-133.

Leaf coated with castor oil is warmed and tied on inflamed parts.

Capparis decidua (Forsk.) Edgew (Capparidaceae, *Ker, Nepti*), Very Common, Chopda, VVB-727.

Decoction of bark with few pepper heads advised in rheumatism and gout while raw fruits eaten reduce swelling of joints.

Capparis sepiaria L. (Capparidaceae, *Kanthar*), Jamner, VVB-39.

Decoction of bark given to soften the inflamed parts of joint and increases mobility.

Cardiospermum helicacabum L. (Sapindaceae, *Kapalphodi*), Umal, VVB-701.

Ointment of crushed leaves with castor oil applied externally to reduce rheumatic swelling.

Cassia auriculata L. (Caesalpinaceae, *Tarwad*), Yawal, VVB-325.

Leaf juice and root bark decoction given internally to cure rheumatic fever arthritis.

Cassia tora L. (Caesalpinaceae, *Tarwat, Tarota*), Very Common, Anturli, GGP-886.

Juice of tender leaves given in the treatment of rheumatic pain to increase mobility of joints.

Chrysanthemum indicum L. (Asteraceae, *Shevanti*), Yawal, GGP-161.

Whole plant decoction given orally takes care of rheumatism and pounded leaves applied on swollen joints.

Cissus pallida Planch (Vitaceae, *Kandvel*), Common, Chopda, VVB-370.

Hot poultice of crushed stem gives relief from pain and inflammation of joints.

Cissus quadrangula L.Mant. (Vitaceae, *Kandvel*), Chopda, VVB-813.

Immobile joints get mobilized by applying lukewarm poultice of stem while decoction of the same given internally.

Clerodendron serratum (L.) Moon (Verbenaceae, *Bharangi*), Rare, Neri, VVB-205.

Decoction of root prevents degeneration of cartilage and reduces inflammation while poultice of leaves crushed in castor oil applied on inflamed joints.

Cocculus hirsutus (L.) Diels. (Menis-permaceae, *Vasan-vel*), Alamner, VVB 197.

Decoction of root with few heads of pepper in goat milk is given orally which is very effective in rheumatism, the general inflammation of tendons, ligaments and soft tissues.

Coleus amboinicus Lour. (Lamiaceae, *Panachanwa*), Common, Chopda, VVB-919.

Juice of fresh leaves is administered internally and crushed leaves applied externally in gout and rheumatism.

Cordia dichotoma Forst. (Ehretiaceae, *Bhokar*), Balwadi, VVB-510.

Raw fruits and fruit decoction are advised as the treatment of joint pains.

Costus speciosus Smith. (Zingiberaceae, *Peva*), Rare, Palziri, VVB-174.

Root and rhizome decoction taken internally to increase the mobility of inflamed joints.

Crinum asiaticum L. (Amaryllidaceae, *Rankanda*), Common, Palziri, VVB-567.

Leaf bruised with castor oil applied locally to take care of inflammation of joints.

Cuscuta reflexa Roxb. (Convolvulaceae, *Amarwel*), Raver, GGP-378.

Decoction of whole plant is advised in the treatment of rheumatism.

Cymbopogon citrulus Stapf. (Poaceae, *Gavati cha*), Common, Pal, VVB-747.

Herbal tea with ginger given internally to treat rheumatic fever and pain.

Cymbopogon martini (Roxb.) Watson. (Poaceae, *Rohisha*), Nashirabad, VVB-65.

Local application of oil is used in rheumatic swelling.

Datura innoxia Mill. (Solanaceae, *Dhotra*), Common, Raver, GGP-110.

Fresh crushed leaves mixed with salt applied over swollen joints to relieve pain of joints.

Derris indica (Lamk) Bennett. (Fabaceae, *Karanj*), Yawal, GGP-602.

Paste of pulverized bark with salt is applied over inflamed joints.

Echinops echinatus Roxb. (Asteraceae, *Utanti*), Chopda, VVB-265.

To get relief from painful joints decoction of whole plant is advised orally.

Eleusine aegyptia (L.) Gaertn. (Poaceae, *Mahar nachani*), Very Common, Unapdev, VVB-604.

Decoction of whole herb used internally in rheumatism.

Erythrina variegata L. (Fabaceae, *Pangara*), Nagziri, GGP-770.

Painful joints get relief when leaf poultice is applied over it.

Eulophia ramentacea Lindl. ex Wight (Orchidaceae, *Lalkand*), Rare, Langda-amba, VVB-574.

Raw tuber is given internally in rheumatoid arthritis.

Euphorbia antiquorum L. (Euphorbiaceae, *Thor, Sher*), Common, Parola, VVB-27.

Latex obtained from plant used in combination with oil applied locally to relieve pains, irritation in swellings.

Euphorbia hirta L. (Euphorbiaceae, *Dudhani*), Khiroda, VVB-13.

Paste of whole plant with water is used externally to treat local inflammation of joints.

Gendarussa vulgaris Ness. (Acanthaceae, *Kaladulsa*), Common, Pal, VVB-348.

Decoction of leaves and tender shoot is given in the treatment of chronic rheumatism. Decoction of roots boiled in goat milk with few pepper is given in rheumatism.

Gloriosa superba L. (Liliaceae, *Kalalavi, Bachnag*), Rare, Adawad, VVB-279.

Ground rhizome mixed with salt is applied as thick plaster over swollen joints.

Grewia asiatica L. (Tiliaceae, *Phalsa*), Uncommon, Chopda, VVB-410.

Poultice prepared from root and the bark of the stem is useful to cure inflammation of joints.

Grewia tilitifolia Vahl. (Tiliaceae, *Dhaman*), Very Common, Umala, VVB-231.

Warm poultice of stem bark is applied to get relief from burning sensation due to neuritis.

Hemidesmus indicus (L.) R. Br. (Periplocaceae, *Anantmul*), Yawal, VVB-112.

Decoction of root is administered orally to check the rheumatism.

Holarrhena pubescence (Buch. -Ham.) Wall. (Apocynaceae, *Kuda*), Pal, GGP-197.

Oral administration of aqueous infusion of leaves reduces painful swelling of joints.

Hygrophila auriculata (K. Schum.) Hiene (Acanthaceae, *Talimkhana*), Manudevi, GGP-723.

Leaves made into paste and applied externally on swelling on joints. Decoction of leaves given orally in rheumatic swellings.

Impatiens balsamina L. (Balsaminaceae, *Terada*), Dharngaon, GGP-39.

Flower poultice is used for pain and burning sensation in joints.

Lantana camera L. (Verbenaceae, *Ghaneri, Tantani*), Very Common, Chalisgaon, VVB-115.

Concentrated decoction obtained from leaves, stem, flowers and fruits applied locally to treat inflammation of joints.

Leucas aspera (Willd) Spreng. (Lamiaceae, *Tumba*), Jamner, VVB-778.

Decoction of leaves given internally in rheumatism.

Launaea procumbens (Roxb.) Ramayya & Rajgopal (Asteraceae, *Pathari*), Common, Jamner, VVB-309.

Raw leaves or juice of fresh leaves is given orally in rheumatism.

Limonia acidissima L. (Rutaceae, *Kavath*), Common, Raver, GGP-975.

Warm poultice of leaves is applied on inflamed joints and the decoction of leaves and root bark takes care of rheumatic fever.

Mallotus phillipensis Muell. (Euphorbiaceae, *Shendri*), Uncommon, Yawal, VVB-172.

Poultice of crushed root applied on the painful joints.

Moringa concanensis Nimmo ex Dalzell and Gibs. (Moringaceae, *Ran-Shevga*), Chopda, VVB-602.

Flower juice given internally in gout and chronic rheumatism.

Moringa oleifera Lamk. (Moringaceae, *Shevga*), Very Common, Idgaon, VVB-433.

Decoction of root is good for rheumatic fever and chronic rheumatism while root paste mixed with common salt applied on inflamed joints and the seed paste is locally applied to treat gout.

Murraya koenigii (L.) Spreng. (Rutaceae, *Kadhi-limb*), Pal, VVB- 45.

Decoction of leaves given in fleeting arthritis and poultice is applied on painful swellings of joints.

Nerium indicum Mill. (Apocynaceae, *Kanher*), Yawal, VVB-312.

Root pounded into a paste, used to treat local inflammation of joints.

Nyctanthes arber-tritis L. (Verbenaceae, *Parijatak*), Very Common, Yawal, VVB-203.

Fresh juice obtained from leaves with sugar candy or decoction of leaves given internally in rheumatism.

Opuntia elatior Mill. (Cactaceae, *Nagfani*), Common, Adgaon, GGP-719.

Mucilaginous juice obtained from chopped stem with little honey given in inflammation of joints while longitudinal cut stems are applied locally on swelling of joints.

Oroxylon indicum Vent. (Bigniniaceae, *Tetu*), Chopda, VVB-612.

Powders as well as infusion of root bark given internally in acute rheumatism.

Pergularia deamia (Forsk) Choiv. (Asclepiadaceae, *Utarni*), Common, Chopda, GGP-48.

Root bark decoction with cow milk is purgative which helps in curing rheumatism and leaf juice with lemon or ginger applied to painful joints.

Plumbago indica L. (Plumbaginaceae, *Chitrak*), Rare, Pal, VVB-273.

The juice of root mixed with coconut oil applied over swollen joints.

Plumeria acuminata Ait (Apocynaceae, *Pandhara chapha*), Common, Amalner, VVB-189.

Milky latex with mustard oil used for light massage of joints in rheumatism while the warm leaves are applied over swelling.

Ricinus communis L. (Euphorbiaceae, *Erand*), Amalner, GGP-161.

Local application of pounded leaves and paste prepared from stem bark on swollen joints.

Salvadora persica L. (Salvadoraceae, *Pilu*), Common, Zadi, VVB-221.

Lukewarm seed paste applied on inflamed joints as painkiller.

Semecarpus anacardium L. (Anacardiaceae, *Bibba*), Pal, VVB-54.

Lukewarm leaf paste with common salt is applied over swollen joints.

Setaria italica (L.) P. Beauv (Poaceae, *Rala*), Edlabad, VVB-208.

Decoction of whole plant given internally in the treatment of rheumatism.

Sida rhombifolia L. (Malvaceae, *Sahadebi*), Common, Faizpure, VVB-447.

Decoction of leaves gives excellent results in rheumatism while poultice prepared by using whole plant is applied on the painful joints.

Solanum nigrum L. (Solanaceae, *Ghati*), Paldhi, GGP-386.

Leaves in poultice form used for rheumatism.

Spilanthes paniculata Wall ex. DC. (Asteraceae, *Akkalkhara*), Uncommon, Pal, GGP-163.

Concentrated decoction of whole herb used as lotion for local application in rheumatism.

Sterculia urens Roxb. (Sterculiaceae, *Karrai*), Yawal, VVB-1043.

Pounded root bark poultice applied externally over affected parts in arthritis.

Tephrosia purpurea (Lamk) Pers. (Fabaceae, *Unhali*), Yawal, GGP-112.

Decoction of root given internally in rheumatism and poultice of crushed roots applied externally on inflamed joints.

Terminalia arjuna (Roxb.) W&A. (Combretaceae, *Arjun-sadada*), Common, Chopda, GGP-149.

Decoction of bark is given internally in the treatment of rheumatism, while bark powder is macerated with water, concentrated and applied locally to get relief from joint pains.

Tinospora cordifolia (Willd) Miers (Menispermaceae, *Gulwel*), Common, Mamurabad, VVB-395.

Luke warm pest of whole plant is applied on inflamed and painful joints.

Trianthema portulacastrum L. (Aizoaceae, *Punarnawa*), Nagziri, VVB-429.

Decoction of whole plant along with ginger is given orally in the treatment of rheumatism.

Trichodesma amplexicaule Roxb. (Boraginaceae, *Agyakhod*), Chahardi, VVB-11.

Roots pounded into a paste and are applied on affected part to get relief from painful rheumatism.

Verbascum chinense (L.) Santapau (Scrophulariaceae, *Gidartamaku*, *Kutaki*), Common, Parola, VVB-647.

Infusion of leaves used internally in the treatment of gout. Local application of lukewarm leaf poultice reduces swelling of joints.

Vitex negundo L. (Verbenaceae, *Nirgudi*), Chopda, GGP-72.

Fomentation of boiling extract with little common salt applied over swollen joints, gives relief from acute pain of joints in chronic rheumatism. The decoction of root is also given internally for the same.

Withania somnifera (L.) Dunal. (Solanaceae, *Ashwgandha*), Common, Mehrun, VVB-127.

Decoction of root is given in the treatment of gout. The roots ground into paste applied on affected parts is useful to cure inflammation of joints.

Woodfordia fruticosa (L.) Kurz. (Lythraceae, *Dhaiti*), Common, Yawal, VVB-924.

Decoction of bark is given orally in local inflammation of joints.

3. Discussion

The present study records 91 folk medicinal plant species used by the rural and tribal communities of Jalgaon district in the treatment of rheumatism, arthritis and general with such complaints and mode of administration is given in the enumeration. The data obtained by interviewing these tribal healers, faith healers, priests and ordinary villagers who had knowledge of the curative properties of plants indicate that these people have considerable knowledge about the use of herbal remedies.

Data compared with available literature in different regions of India on medicinal plants

(Chopra *et al.*, 1956; Kirtikar and Basu, 1981; Jain, 1981; Ambastata, 1986; Agrawal, 1986; Indira Balachandran, 1994; and Wealth of India, 1948-1976). It was found that many of the uses listed are not recorded earlier. It provides deeper insight into the ingenious method of application and effectiveness of the plant derivatives in treating rheumatism. Authors hoped that these botanicals might provide a rich potential for future phytotherapy.

During the present study it has been observed that most of the plants are common except few vulnerable species like *Baliospermum montanum*, *Clerodendron serratum*, *Eulophia ramentacea*, *Gloriosa superba*, *Plumbago indica* etc. within the study area. Although root, bark, stem, leaves and whole plant is used but leaf is the commonest part used in the treatment.

Majority of the preparations are used internally or applied externally in the form of infusion, decoction, paste or powder. Investigations on ethnomedicinal plants bring out clues for the phytochemical research people to better evaluate the efficiency of medicines of plant origin.

This paper provides a report on ethnomedicinal uses of some important plants locally available in the treatment of rheumatism and arthritis. A thorough investigation may provide remedies for ailments related to rheumatism and arthritis and also raw material for undertaking further scientific research to confirm the findings.

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