

EXOTIC MEDICINAL PLANTS FROM WEST VIDARBHA REGION VIth

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ABSTRACT

Exotic plants may be introduced or arrived there by human activity either deliberately or accidentally, where they do not naturally occur these are considered as non native, non indigenous or simply aliens to a particular area, a survey of such plants were made into West Vidarbha region of Maharashtra State. The present paper deals with study of 36 exotic medicinal plants used regularly by the tribal or villagers where there is no facility of primary health, sometimes the peoples living nearby the forest areas believe on plant medicine than standard allopathic medicine. Some of them may cause harm to the indigenous species or they may be harmful to the human health, these are considered as the invasive species. Many times farmers and villagers try to eradicate out these species from the region. The present work is in addition to the previous reports

Key words : Exotic, Medicinal Uses and West Vidarbha

INTRODUCTION

West Vidarbha region comprised by the five districts namely Akola, Amravati, Buldhana, Washim and Yeotmal. In this region forest is dry deciduous types and the soil is mostly classified as black cotton soil, brown soil, and loamy soil. The rain fall ranges between 540- 860 mm. In some parts considerable variation may occur due to topology, geology, climate and rainfall. During exploration it was observed that the local flora is now mixed with number of exotic species. Survey was carried out during 2005-2013. Concise account is prepared for the compilation of exotic flora in region. Flora of Akola district was published by S. Y. Kamble and S. G. Pradhan, Amravati district by M. A. Dhore, Buldhana district by P.G. Diwakar, Washim district worked out by A. M. Deore for his Ph. D thesis and Yeotmal district by S. Karthikeyen. Exotic species are those plant species which are not native to a particular area. These species have been introduced by human

activities to a location where they do not naturally occur and so they are termed exotic, non indigenous, non native or simply alien. The exotics threaten to alter the natural composition of forest vegetation. They restrict, prey on or compete with native populations and disrupt the integrity of site, and are major ecological threat. Some kinds of research, suggested that the plants inhibits the growth of other plants in its vicinity. When those non-native species cause ecological problems, they are termed as invasive or harmful exotic species. It is observed that many times they are turn out in to a weed. Such species primarily invades disturbed habitats degraded forests or thickets and left out or fallow fields crowding out native vegetation of upland forests, forming single species stands. For example, in most parts of Vidarbha region, once introduced the species like *Lantana camera*, becomes invasive and slowly suppresses the growth of original vegetation especially on the farm hedges. Once it starts flowering and fruiting, the seeds spread over a large area and germinate

very fast. Then it becomes very difficult to eradicate them. Some of them are prolific seed producers. One can observe many such examples like *Cassia uniflora*, *Lantana camera*, *Prosopis julliflora*, *Parthenium hysterophorus*, *Alternanthera sessilis*, *Ipomoea carnea*, *Leucaena glauca*.

Flora refers to the botanical composition of a place where names of different species are taken in to account. Flora is widely categorized in to two types these are native flora and exotic flora. Native floras are those which exist from prehistoric times in the country, while exotic flora is those which are of foreign origin. Exotic plant species have become elements of the flora of most region of Vidarbha within last five years. Exotic floras are either introduced species can often negatively affect native species, while they are selected specifically for their adaptability and in the long run often outnumber the native species and compete with them for the resources. This results in the expansion of the introduced species and the decline of native species. The effect of introduced species on natural environment is a controversial subject and one that has gained much scrutiny by scientists, government, farmers and others.

Not all introduced species are problematic. Those species that spread widely and create significant problems are known as invasive species. An invasive species is one that has been introduced and become a pest in its new location, spreading by natural means. The term is used to imply both a sense of urgency and actual or potential harm. As an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. In West Vidarbha, exotic plant species or variety have been introduced from different parts of world through the ages. Some exotic plants have turned in to weeds, multiplying fast and causing harm to ecosystem. Other had no negative effect and can be beneficial or detrimental in the long run remains unknown.

MATERIAL AND METHODS

In Vidarbha region forest is of dry deciduous type. In some parts, the river flows nearly for 4-6 months while rest of the days becomes dried. The climate is also occurring in fluctuation. The season like, winter is too cold, in summer season the temperature is very hot and the rainy days are not fixed. The types of soil is mainly black cotton in major parts also in some parts the soil is saline or red brown having less water holding capacity.

Exploration survey for the collection of exotic plants from the different areas of Vidarbha region, were started from 2005-2013 many of them are collected from the various locality. The collected specimens are dried and the herbarium sheets are prepared. These plants are identified by using regional floras like Flora of Marathwada, V. N. Naik 1997; Flora of Akola district, P.K Singh and S. Y. Kamble & S. G. Pradhan, 1987 and Flora of Maharashtra State Volume I, & II, 2000. The voucher specimens are deposited in the herbarium of Botany department of Shri Shivaji College, Akola.

RESULTS

1. *Gladiolus crassifolius* Gaertn.

It is used for headache and lumbago (The whole plant is crushed heated and applied to the affected part) *G. saundersii* (cooked corms) mixed with food is effective against diarrhea. The crushed and ground corms of *Gladiolus eklonii* are detected and drunk to get rid of rheumatism and allied pains.

2. *Strelitzia reginae* Banks.

Commonly known as bird of paradise is an evergreen perennial herbaceous plant grown in the regions having moderate climate.

3. *Dahlia pinnata* cav.

Tubers contain significant amount of insulin and fructose; small amount of active compounds such as phytin and benzoic acid. Inulin extract obtained from tubers of *Dahlia* is used in diagnosis of renal functions. Seeds are good source of fats and proteins. Root exudates are nemato toxic. The mortality of nematode increasing with increased concentration of exudates.

4. Marigold

(*Tagetes patula*, *T. tenuifolia*, *T. lacida*, *T. signata*)

Leaf paste is used externally against boils and carbuncles. Leaf extract is good remedy for earache and have fungicidal effect. Oil acts as a repellent to flies.

5. *Mathiola incana* L. (*M. sinuta*)

It is a potential source of 3-lenolenic acid for dietary supplement and industrial uses.

6. *Nelumbo nucifera* Gaertn.

Whole plant used in curing digestive, reproductive, circulatory and excretory system. Every part of the plant used as a food and recommended for the treatment of spermatorrhoea, gonorrhoea, insomnia, metrorrhagia, dyspepsia. Honey produced by the honey bee from lotus flowers is reported to have good tonic properties. Carpels are eaten raw roasted, boiled and sometimes grounded into flour which is a good source of cereals and nutritive too.

7. *Hemerocallis plantangea* Lamk.

It possesses anti-febrile and diuretic properties. *Hemerocallis* contains toxin which is neuro-toxic to man and animals. It causes colour blindness in sheep.

8. *Gypsophila paniculata* L.

Roots of *G. paniculata* and *G. arrosfii* are known as saponin drugs and have been used as detergents and expectorants.

9. *Galliardia pulchella* L.

It is useful in reducing erosion in coastal dune.

10. *Gomphrena martiana* L.

It is used to treat stomachache, gastrointestinal disorders, traumatic injuries, several bacterial disease and tumors.

11. *Canscora diffusa* (Vahl) R.Br.

Leaf ash mixed with coconut oil is applied on skin to prevent fall of hair due to skin infection. This is followed till cure. Ash of entire plant is also applied on swelling, goiter or even smoke is passed over the body of a patient. Plant is used as a nerve tonic and substitute for *Canscora decussata*.

12. *Ipomoea eriocarpa* R.Br.

Leaves are used as a vegetable, in soup or mixed with other food. Seeds are also edible. The plant used as a fodder, effective soil blinder and cover plant. An oil extract used externally against headache, rheumatism, leprosy, epilepsy, ulcers and fever. In veterinary medicine, the oil extract s used to cure wounds of cattle.

13. *Ipomoea obscura* (L.)Ker-Gawl.

In some part leaves paste is mixed with alcohol externally applied to open sore and pustules. Root decoction used against dysentery.

14. *Lagneria siceraria* (Mol.) Standl.

It is commercially cultivated. Roots and fruits are sometimes used as a purgative. Leaves used against stomachache, skin, rashes, swelling due to snake poison.

15. *Lepidium sativum* L.

A paste of seeds with water is applied to chopped lips and also against sunburn and other skin problems of human and animals. The paste with honey is also taken internally to treat amoebic dysentery.

16. *Melochia corchorifolia* L.

Leaves and roots are used to treat urinary disorders, abdominal swellings, dysentery, snake bites and sores. An aqueous solution of leaves has insecticidal properties.

17. *Polygonum plebeium* R.Br.

It is planted as a famine vegetable, it is grazed by horses.

18. *Convolvulus arvensis* L.

Leaves are used in medicine for spider bites and intestinal stimulant. Leaves and roots are considered to be laxatives.

19. *Cleome monophylla* L.

An essential oil is obtained from the plants used as repellent for tick. Leaves are edible cooked and used like spinach. The pungent seed is used as a mustered substitute.

20. *Puppalia lappacea* (L.)A.L. Juss

It is used as antidotes (Venomous sting, bites) diarrhoea, dysentery, dropsy, swelling,

gout, febrifuge, generally healing, nasopharyngeal affections, skin and venereal diseases. In Africa, the fruit is applied for cuts an ingredient enema preparation mixed with palm oil also applied as a dressing of boils. It is given in the form of soup for cough and fever.

21. ***Crotolaria medicaginea* Lam.**

Leaves are used for curing white discharge; with a cup of milk once in a day for one month.

22. ***Pueraria tuberosa* DC**

In chest pain two pills made from powdered tuber mixed with sugar are taken twice a day for 4-5 days. To cure weakness boiled roots are eaten twice a day for three weeks.

23. ***Cuscuta hyaline* Roth**

Whole plant extract taken against chest pain.

24. ***Indigofera glandulosa* Wendl.**

Seeds are rich in proteins, carbohydrates, essential amino acids and vitamins. The plant is described as nourishing food for human beings and is believed to possess the qualities of a tonic in Indian medicine. It is highly palatable forage legume. Environmentally it is also useful for fixing nitrogen in their nodules.

25. ***Indigofera trita* L.f.**

The plant is used as anti-tumour. (Nadkarni et.al.2000)

26. ***Ottelia alismoides* (L.) Pers.**

It grows in fish ponds which help to keep the water sweet. Petiole and leaves are edible. Leaves are applied to treat the hemorrhoid and have excellent aroma used as vegetable. Plant extract used for tuberculosis.

27. ***Chenopodium murale* L.**

Plant is nutritive, diuretic, mild purgative, emollient, antihelmintic, tranquilizer, tonic for liver. Leaves are edible.

28. ***Lathyrus aphaeca* L.**

Seeds contain toxic amino acids which in large quantities can cause a serious disease

of the nervous system known as Lathyrism. In small quantity seeds are safe and very nutritious.

29. ***Sonchus oleraceus* L.**

It is used medicinally to treat diarrhoea, menstrual problems, fever, inflammation and warts. As abortifacient as a cathartic, a sedative, cancer treatment, a vermizides aid for toothache.

30. ***Gomphrena globosa* L.**

Leaves used as syrup as expectorant, flowers an infusion against used as hypertensive.

31. ***Ageratum conyzoides* L.**

It contains toxic pyrrolizidine alkaloids, causes liverless and rare tumourogenic.

32. ***Euphorbia pulcherrima* Willd. ex Klotzsch**

Latex of plant used to treat fever, stimulate breast milk production and cause an abortion, also taken for killing bacteria, pain and cause vomiting. Latex used directly to the skin to remove hair, treat warts and other skin disorders, tooth ache. Decoction of the bracts and flowers are taken as galactogogue by nursing woman to increase milk flow although the practice is said to be very dangerous. Red bracts used to treat skin issues, warts and toothache.

33. ***Rivina humilis* L.**

Plant is toxic. Red fruits have been used for cosmetics hence the name rouge plant. Fruits and leaves are toxic if ingested. In folk medicine the plant tea used to treat cold diarrhoea, difficult urination, flatulence, gonorrhoea, jaundice and ovarian pain. At one time plant was grown to use fruit juice as a dye and an ink.

34. ***Martynia annua* L.**

Root decoction is administered for snake bite, leaf juice for epilepsy, tuberculosis and sore throat. Ash of fruit mixed with coconut oil is applied on burn. Seed oil applied on abscesses.

35. ***Lagascea mollis* Cav.**

Leaf paste is applied on cuts or injuries.
Plant ash used on cuts.

36 ***Acanthospermum hispidum* DC.**

Whole plant powder used for the treatment of jaundice, malaria, vomiting, headache abdominal pain, convulsion, stomach ache, constipation eruptive fever snake bite epilepsy, blennorrhoea.

37 ***Aerva lanata* (L.) Juss. Ex Schult.**

Decoction of complete plant used in kidney stone or kidney pain.

38 ***Holoptelea integrifolia* (Roxb.) Planch**

Bark powder when mixed with curd used against abdominal pain.

7 **Naik V.N 1989**, Flora of Marathwada Vol. I & Vol. II Amrut Prakashan, railway station road, Aurangabad.

8 **P. K. Singh, Nitish Singh, A. K. Singh, J. P. Shahi and M. Rao, 2013.** Heterosis In Relation To Combining Ability In Quality Protein Maize (*Zea Mays* L.). Biolife. 1(2):- 65-69.

9 **S. Karthikeyen** 1998, Flora of Yeotmal district, B.S.I. Western circle Pune.

10 **S. Y. Kamble & S. G. Pradhan** 1987. Flora of Akola District, publ. B. S. I, Western circle Pune.

11 **Sharma B.D. 2001** Flora of Maharashtra state, monocotyledons, B.S.I, Western circle Pune.

CONCLUSION

During exploration to the forest areas and casual visit to the Garden of Agriculture University, it was recorded 38 species of exotic plants used as a medicine by the public of which 12 species are collected from the garden and 26 species from forest areas which are naturalized in forest vegetation, now they are the part of our natural vegetation. After phytochemical investigation, their use for different types of ailment will be confirmed.

REFERENCES

- 1 **Deore A.M. 2010** Flora of Washim district, Ph. D thesis submitted to S.G.B Univ. Amravati.
- 2 **Diwakar P.G 2003** flora of Buldhana district, publ. B.S.I Western circle Pune.
- 3 **Karthikeyen, S., 2003** Flora of Maharashtra state, Dicotyledons vol. II ,B.S.I Western circle Pune.
- 4 **M. A. Dhore** 2005 Flora of Melghat publ. S. G. B. Univ. Amravati
- 5 **N. P. Singh and S. Karthikeyen, 2000**, flora of Maharashtra state dicotyledones vol. I B.S.I Western circle Pune.
- 6 **Nadkarni K.M. 2000** , Indian materia medica vol.I, Revised edition Bombay popular Prakashan.

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