



## Anti-Carcinogenic Aquatic Weeds : A Review

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### ABSTRACT

Aquatic weeds have been regarded as the most troublesome, pernicious and challenging environmental threat and generally termed as “economic drain”. Despite of so many negative roles, there are a number of aquatic flora containing anti-carcinogenic properties, which may be used in different or specific types of cancer. However, it is clear that no detailed study of these weedy floras has been done to know the individual application of plants or in mixture of plants in treatment of cancer. The present work includes compilation and documentation of aquatic weeds of Santhal Paragana division of Jharkhand state which are anti-carcinogenic in nature. It has also been an urgent need to start projects to protect these plants from being endangered and extinct, and also to find out other economic and physiological benefits of these plants.

**Key words : Anti-carcinogenic, Aquatic weeds, Cancer, Santhal Paragana.**

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### INTRODUCTION

Human beings have been using plants as drug to cure various kinds of ailments since ancient time. Utilization of plants in the field of medicine is as old as human race itself. India, the land of Charaka and Shushruta, is endowed with the knowledge of traditional medicine next to China in the World. Indigenous knowledge is still utilized in the many remote pockets, where the modern medical science is not feasible. Plants represent the eternal kindness to nature by all means which can easily be seen in varied human culture. India in general and the lower gangetic plain in particular is being known to be the rich repository of medicinal plants which have been used for prevention of diseases and other kinds of ailments since Rig-vedic period. Being enriched with ancient knowledge of health care, various kinds of ethnic and rural communities have traditionally

preserved a bulk of indigenous knowledge of utilization of medicinal plants growing in their vicinity from centenaries.

Aquatic weeds have mostly been regarded as the unwanted and pernicious environmental threat, the rapid growth and infestation of which has frightened human population in so many ways. Millions of funds are being released for eradication and control of this unwanted flora. That is the reason that these plants have been termed as “economic drain”. But the researchers have found a number of useful ingredients present in most of these weedy flora, which have made them need of today and tomorrow. They have high medicinal therapeutic values and are also good source of food and provide raw materials for livelihood. These herbal plants may be useful in promoting host resistance against infection by re-stablizing body equilibrium and conditioning the body tissues. Such plants are easily available, cheaper and non-toxic as compared to drugs of modern medical science. There is a broad

scope to derive the potent anticancer agents from so many plants growing around us.

Santhal Paragana, an integral part of the lower Gangetic plain is a homeland of a number of medicinal plants. It is a hot spot for traditional field of ethnomedicine. This division is dominated by tribal communities having very rich traditional knowledge of medicinal plants. The tribals, forest dwellers and rural people have rich herbal knowledge but this field has been facing lack of organisation and so many other problems. Since there is dominance of ponds and seasonal tanks, so aquatic flora have registered their occurrence in this area and they have mostly been treated as weeds. If these weeds will be used against various kinds of ailments, and fish farmers and poor tribal mass will be encouraged to grow them on large scale, it will be a milestone to uplift socio-economic standard of the tribals. This division has evidence of 4 most potent aquatic weeds having anti-carcinogenic properties. The economic conditions of resident of this area is witnessing rise in naxal activities due to unequal economic condition. If the cultivation of these revenue earning medicinal plants along with traditional crops is adopted, then not only the economic conditions of farmers and rural folks will be enhanced but the new vistas of economics development will certainly flourish.

## MATERIAL AND METHODS

The present study was done in the tribal rich areas,

Raniganj, Kundahit, Narayanpur and Gopikander of Dumka division. The tribal communities of these areas were found to be very backward to be miles away from the scene of development. This area is dominated with a number of water bodies and rich aquatic vegetation. It was also estimated by some of the local residents that unemployment and neglected attitude have compelled the new generation to enter in extremist activities. The present study is a part of regular survey and contact with some of the local residents to know the present status and their interest in cultivation of medicinal plants for uplifting their socio-economic status. If tribal communities of these extremist affected areas will be supported and encouraged in cultivation of medicinal plants with true and justified market value, the scene of socio-economic development will be different and it will surely change the scene of unemployment and their living standard.

The present work is a part of exhaustive ethnobotanical survey of sampling sites and contact with local tribal people having indigenous knowledge of herbal plants and it has been tried to present a clear cut scenario of anti-carcinogenic aquatic vegetation to make it milestone both for ethnic communities and for governmental and non-governmental agencies.

## RESULT & DISCUSSION

Detailed study of anti-carcinogenic aquatic flora has been summarised in Table – I. Regular and frequent

Table-1

Common name	Botanical name	Parts Used	Locations	Family
Brahmi	<i>Bacopa monnieri</i>	Stems & leaves	Damp & marshy places, roadsides, paddy fields.	Scrophulariaceae
Thankuni, Falguni saag.	<i>Centella asiatica</i>	Whole plant	Marginal areas of drains and canals.	Apiaceae
Kanta kalia, (Kuliakhara)	<i>Hygrophila auriculata</i>	Seeds	In moist places	Acanthaceae
Khet papra, Panki	<i>Oldenlandia diffusa</i>	Stem & leaves	In damp & marshy places.	Rubiaceae

survey shows that aquatic plants used in traditional medicine have stood upto the test of time and contributed many novel compounds for preventive and curative medicine to modern medical science. Several reports describe that the anticancer activity of medicinal plants is due to the presence of antioxidants present in them.

Cancer is often deadly and affects a considerable number of people worldwide. Ongoing research is being done throughout the world to seek out effective treatments for cancer, including the use of plants to relieve and treat cancer patients. This treatment makes use of the compounds naturally present in plants that are known to inhibit or kill carcinogenic cells. The use of herbal drugs or flora may emerge as the most potent alternate remedy in this field because some weedy plants like *Centella*, *Bacopa*, *Oldenlandia* and *Hygrophila* may contain properties that naturally have the ability to prevent the spread or risk of developing various forms of cancer. Out of these aquatic plants, *Centella* seems to be the most potent and effective anti-carcinogenic flora.

Despite of being very rich reservoir of a number of important and potent anti-carcinogenic plants, the sampling area has not drawn attention of governmental and non-governmental organisations to work in this new generation of medicinal world. Most of the plants grow enormously and are treated as weeds. There is an urgent need to promote cultivation of such valuable flora both for upliftment

of socio-economic status of tribal folks and for a healthy and potent habitat.

### Conclusion

Aquatic weeds may be very useful in enhancing the healthy atmosphere by using them as traditional medicine and at the same time they may solve the problem of unemployment by commercial cultivation and proper marketing system. There is only need to develop a plan both for betterment of mankind and balance of ecological world.

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