

## **Interesting Aquatic Angiosperms of the Koshi Region**

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### **Abstract**

Most of the area of the Koshi Region is of wetlands i.e. Dhars, Ponds, chours, ditches lakes and revulutes. In the course of research works, a lot of aquatic Angiosperms plants were studied by me. Really this research work was very interesting and challenging for me. During regular exploration tours of all the region of river kosi, most of the aquatic Angio spermic plants were collected in vegetative, flowering and fruiting stages of each of pteridophytes, monocots and dicots.

**Key words:** Ditches, Revalutes, Pteridophytes.

### **Introduction**

The kosi river is the most ancient and famous for changing its course. It is remarkable for the rapidity of the streams, the dangerous and uncertain nature of its banks and the desolation which its flood causes.

The past history of the river kosi is the history of the different courses which was adopted successive decades below Chatra in Nepal i.e. in plain. During the last two hundred years, the river has been generally changing its course in a westside direction. It has shifted across a width of over more than 100 km. In these movements it has laid tracts and fertile agricultural lands.

The changes that take place in the courses of the river kosi is not due to the ordinary meandering at the river as a whole. The apparent cause of rapid changes in the river is due to heavy silt charge. It carries in suspension and detritus that move along its bed. The natural gradient of the country is good enough to carry the silt free monsoon flow translation takes place. In the process of translation, the river kosi monopolies the course of various independent dhars viz. Parwan Dhar, Tilve Dhar, Dhemehra Dhar etc. It is now tending to occupy more and more Tiljuga Dhar, Balan Dhar, Kamla Dhar in the lower reaches.

Different proposals in taming the river kosi has been taken from time to time under the consideration of govt. of India.

The advisory committee appointed by the Government of India recommend the construction of Eastern Koshi Canal for irrigating land in India and Eastern Nepal and construction of flood banks in 1953 under kosi project.

Within the embankment of the kosi river we visited so many wetlands i.e. chorus, dhars, ditches, Revulutes and collected various types of Aquatic Angio spermic plants for the study within vegetative, flowering and fruiting stages

## **Methodology**

The research work is based on the result of the several years of critical and intensive study of aquatic Angiosperms of the river Kosi especially of Kosi and Purnea Division of Bihar.

The survey of the Aquatic Angiosperms of the river kosi was done in the following manner: -

1. Regular exploration tours were made in ever month all the region of the river Kosi to collect most of the aquatic Angio spermic plants in vegetative, flowering and fruiting stages.
2. Generally, 4-6 specimens for each species were collected and its data were recorded in the field notebook. The data recorded field number, habit, habitat, locality, ecological notes as well as colour of the flower common name and its used.
3. An attempt was made to identify the plants before pressing in herbarium pressure with the help of flora.
4. The collected specimens were immediately pressed in herbarium press. Flowers and fruits of important and rare specimens were also fixed in preservatives for the critical studies.
5. The dried specimens were poisoned with solution of Mercuric Chloride and Cresol in rectified spirit.
6. Mounting was done for every specimen on stiff thick white 42X28 cm herbarium sheet (supplied by Handmade paper Institute, Poona) with the help of Fevicol or Glue.
7. All such specimens were fully labelled on the right lower corner from the data of the field note book.

## **Result**

As the result of regular exploration tours and supervisor's guideline generally 4-6 specimens after each species were collected and studied about as mentioned in methodology. Here I am discussing about some of the aquatic flora in brief.

Those are given below:

### **ELATINACEAE**

#### **BERGIA Linnaeus**

An annual erect or diffuse, hairy, branched herb. Leaves linear- lanceolate or oblanceolate, sharply serrate, sessile, acute; stipules white, in few to many flowered fascicles, sepals 5, ovate-oblong. Petals 5, free. Stamens 5, free Ovary ovoid, 4-lobed; style 5, stigma more or less capitate, 5-lobed. Fruit: Capsule, dehiscent from central axis. Seeds many, minute ovoid, light brown.

Field notes: Common in moist & marshy Places

Fl. & Fr.: December-April

Bharti 224, Supaul

### **ZYGOPHYLLACEAE**

#### **TRIBULUS Linnaeus**

A small diffuse hairy herb, young parts silky- villous. Leaves paripinnate, leaflets 4-7 pairs, oblong mucronate, stipulates lanceolate. Flowers 8-12mm across, solitary, axillary or leaf opposed, yellow. Sepals 5, lanceolate, hairy. Petals 5, obovate, obtuse or lobed stamens 10, free. Fruit globose schizocarp with two lateral rigid spines splitting into 4-6 cacci. Seeds many in each locus.

Field notes: Common in grassy field

Local name: Gokhuru

Bharti 240, Maheshi

## **OXALIDACEAE**

### **OXALIS Linnaeus**

A perennial herb with procumbent branches. Leaves palmately 3-folate; leaflets obcordate; entire, ciliate, sub-sessile, cutneate at base. Flowers yellow in axillary, solitary. Sepals 5, free. Petals 5, free, glabrous slightly depressed Stamens 10, alternately long and short. Fruit 5-angled, linear-oblong, capsule seeds red or dark brown, many.

Field notes: Common in moist field

Local name: Khatibuti

Fl & Fr.: Throughout the year

Bharti 175, Birpur

## **PAPILIONACEAE**

An aquatic erect herb. Leaves 5-15cm long; leaflets many, sessile, small, alternate, obtuse; apiculose, nerved. Flowers yellow, in axillary corymbose racemose, Calyx hispid. Pods 5-8cm long, 3-8 jointed.

Field note: Common in Swampy Places

Fl. & Fr.: July- November

Bharti 103, Birpur

### **Aeschynomene Indica**

An aquatic, erect annual herb, 30-150cm tall. Thick tap root, crowded with nodules. Branches slender, terete, often muricate. Leaves unipennate 3-7cm long. Leaflets numerous, small, alternate sessile linear-oblong stipulate linear lanceolate. Flower yellow, veined purple pods 6-9 jointed, 3-3.5 X 0.3-0.5cm. linear-oblong, dotted with black, upper suture straight lower indented.

### **Conclusion**

The kosi region is the land of wetlands. Wetlands provide complete ecosystem for aquatic flora and fauna. Most of the aquatic Angio spermic flora are valuable. These need scientific view for conservation. A good source of income and also needs government help.

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