

DOCUMENTATION OF ETHNOMEDICINAL USES OF PLANTS FROM JOYPUR FOREST IN BANKURA DISTRICT, WEST BENGAL**SAYANI BISWAS^a AMBARISH MUKHERJEE^b AND JIBAN KUMAR PAL^c**^{ab}Department of Botany, The University of Burdwan, Golapbag, Burdwan, West Bengal, India^cNetaji Mahavidyalaya, Arambagh, Hooghly, West Bengal, India**ABSTRACT**

The present work deals with the documentation of traditional knowledge of the folk communities of Bankura district, West Bengal regarding medicinal uses of plants. Here as many as 25 plant species belonging to the 17 families have been documented along with their vernacular names, family, plant parts used, medicinal use/curative properties and preparation of medicines. The present work aims to draw attention of scientists for in-depth studies on the concerned medicinal plants for their therapeutic validation, the findings of which can provide novel patient-friendly remedies atleast for primary health care.

KEYWORDS : Folklore, Ethnomedicinal property, Joypur forest, Bankura District, West Bengal

The widespread use of plants for healthcare and preparation of herbal remedies can be revealed from such ancient scriptures as Vedas, Qurans, Bible and others. The traditional knowledge about medicinal properties of plants has been an outcome of age- long intimate relationship of man with plants. The folklore regarding medicinal uses of plants which gets transferred orally from one generation to another and survives in traditions needs to be thoroughly documented and validated. It is the subject of ethnobotany to document all aspects of direct relationship developed since time immemorial between man and their surrounding plants. Contributions of Jain (1981, 1989, 1991, and 1997) have been in principle and practice encouraging researches in the field of ethnobotany. The guidelines available there from has been the driving force for documentation of medicinal plants and their uses. According to WHO about 80% of the population in developing countries depend directly on plants for its medicine (Pareek, 1996; Mukhopadhyay, 1998). In India about 2000 drugs used used are of plant origin (Dikshit, 1999). The present work was undertaken in 2013 considering importance of ethnobotany in exploration, management and sustainable utilization of phytoresource, socioeconomic development and conservation of biodiversity.

Study Site

Joypur forest (23.056^o Latitude and 87.44^o Longitude) is located in the Radhamadhabpur locality of Bankura District in West Bengal (Figure 1). The forest is of tropical dry deciduous type dominated by Sal (*Shorea*

robusta). The soil is of red lateritic type. The climate, especially in the upland tracts to the west, is much drier than in eastern or southern Bengal. From the beginning of March to early June, hot westerly winds prevail, temperature being about 45 °C (113 °F). The monsoon months, June to September, are comparatively pleasant. The total average rainfall is 1,400 millimeters (55 inches), the bulk of the rain coming in the months of June to September. Winters are pleasant with temperatures dropping down to 27 °C (81 °F) in December.

MATERIALS AND METHODS

The present work is the outcome of field work carried out since 2013 in the tribal hamlets in Joypur, a forested area in Bankura District of West Bengal. The sites were visited from time to time to collect information and plant specimens of concern from traditional healers, experienced elderly persons especially women. The information thus documented was cross checked by interrogating other persons of the same and different villages. Publications related to the ethnomedicinal uses noted in the present work were compared with the uses published earlier (Jain, 1981, 1989, 1991, 1997; Chopra et al., 1956; Mukherjee and Namhata, 1988. Rahaman et al., 2008) to ascertain novelty of the medicinal uses thus documented.

Concerned plant species were identified on the basis of taxonomic work-out and consultation of literature and authentic specimens preserved in the University

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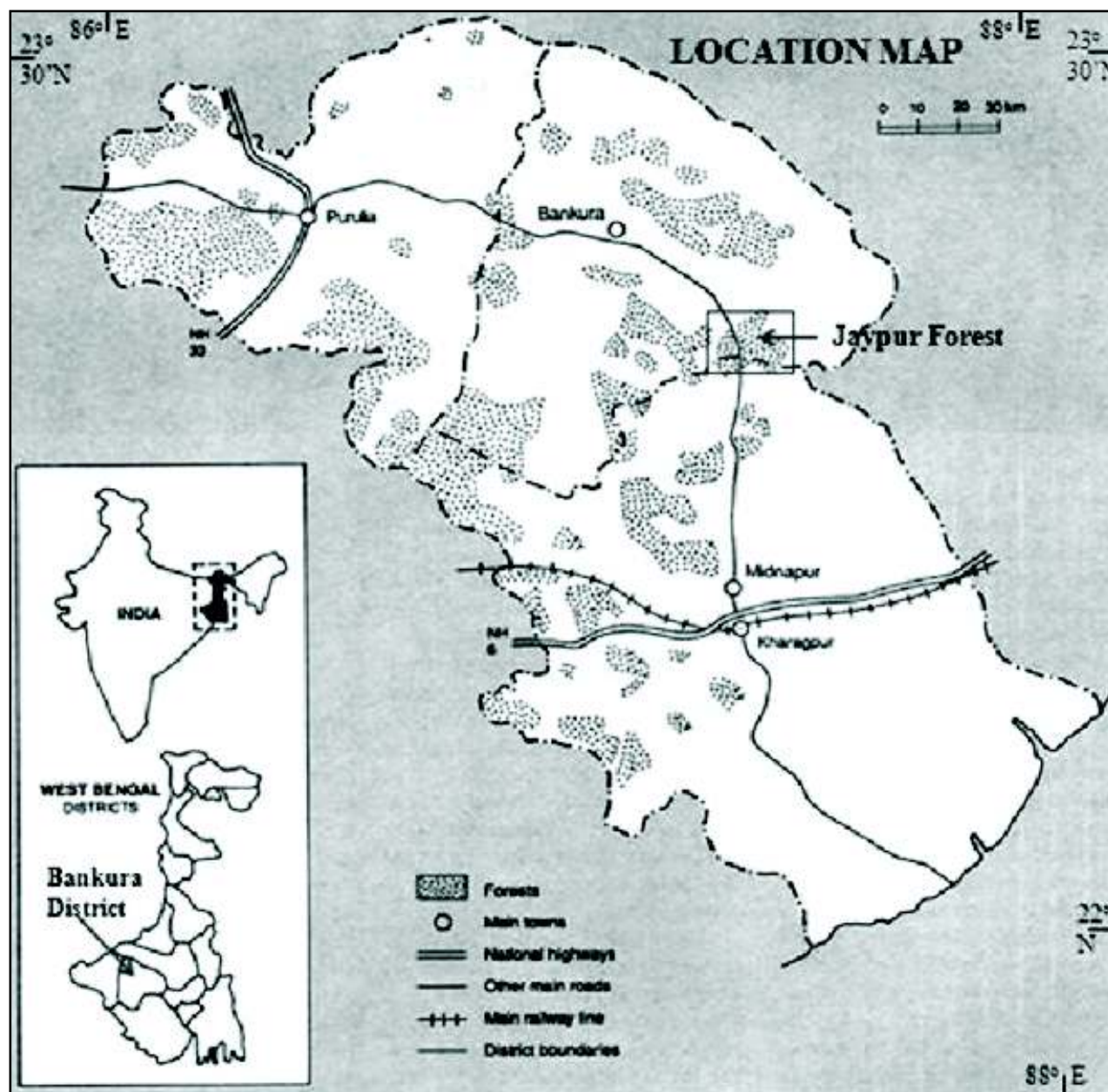


Figure 1 : Map of Bankura District, West Bengal Showing Study Site

Herbarium (BURD). The websites of the International Plant Names Index (IPNI), The Plant List and Tropicos were consulted for updating species names.

RESULTS AND DISCUSSION

During field work indigenous knowledge about medicinal uses of as many as 25 plant species belonging to

17 families have been documented along with their local name, family name, plant parts used, preparation and mode of administration (Table-1). The ethnomedicinal practices recorded appear to be very simple and effective because there has been almost no report in the locality regarding any remarkable side effect. Although the plants recorded in the present work appear to be very common but the uses thus

Table 1: Account of the Medicinal Plants with in the District of Bankura, West Bengal, India (Study Area)

Scientific Name and Family	Vernacular Name	Disease Cured	Plant parts used	Preparation and Administration
<i>Acorus calamus</i> L.(Araceae)	Bach	Skin eruptions and dermatitis, cough, bronchitis	Rhizome, Root	By decoction medicine is prepared for local application..
<i>Aloe barbadensis</i> Mill. (Liliaceae)	Gritokumari	Skin disease, eczema, piles	Leaf	Two teaspoon full of the leaf jelly is mixed with rice and eaten.
<i>Ambroma argusta</i> (L.)L.f. (Malvaceae)	Ulotkombol	Leucorrhoea	Leaf	Leaves are boiled in water and massaged on lower abdomen for 2 to 3 days.
<i>Andrographis paniculata</i> (Burn.f.)Nees. (Acanthaceae)	Kalmegh	Dysentery, diabetes	Leaf	Young shoots are boiled in water into a semisolid mass which is converted into pills and 2 such pills are taken in per day.
<i>Asparagus racemosus</i> willd. (Asparagaceae)	Satamuli	Diabetes, dysentery	Leaf, Root	Dried plant parts are powdered and taken orally.
<i>Bacopa monnieri</i> (L.)Wettst (Scrophulariaceae)	Brahmi	Loss of memory, idiocy.	Full plant body	Firstly leaves are fried and then taken with rice meals.
<i>Boerhavia diffusa</i> .Brandegee (Nyctaginaceae)	Sapune	Kidney problem	Whole plant body	Leaf juice taken for 2 times per day for a month or so.
<i>Bryophyllum indicum</i> (Lam.)Oken. (Crassulaceae)	Patharkuchi	Diabetes, jaundice	Leaf	Fresh leaf juice is boiled and one teaspoon is taken daily for 7-15 days.
<i>Calotropis procera</i> .(Aiton)Dryand. (Asclepiadaceae)	Akondo	Arthritis	leaf	A leaf is coated with mustard oil and heated for fomentation on affected joints.
<i>Cassia tora</i> L. (Caesalpiniaceae)	Kalkasunda	Asthma, cough	leaf	Leaf paste is mixed with sugar to form pills and one such pill is taken 2 times a day i.e. in the morning and evening for 7 days.
<i>Centella asiatica</i> (L.)Urb. (Apiaceae)	Thankuni	Weakness, loss of memory, ulcer	Leaf	Fresh leaves are fried and taken with meals. Often fresh leaves are dried in packages of clean linens placed in shade, powdered or dusted. About 2gms of the powder are taken 1-2 times a day for a month or so.
<i>Cissus quadrangularis</i> L. (Vitaceae)	Harjora	Bone fracture	Leaf	Leaves and stem are smashed and applied on the painful part and covered.
<i>Clitoria ternatea</i> L. (Papilionaceae)	Sada oporajita	Hysteria, idiocy, cough	Leaf,Root	5 to 6 gms of roots are mixed with ghee and pasted, mixed with honey, 1 teaspoon of which is taken daily
<i>Coccinia grandis</i> (L.)Voigt. (Cucurbitaceae)	Telakuch	Cough, dysentery, fever	Leaf ,root	One teaspoon of leaf- and root-juice are taken once in the morning and once in the evening.

to be continued...

<i>Coleus amboinicus</i> Lour. (Lamiaceae)	Pornojoyan	Indigestion, asthma, epilepsy	Leaf	Leaf- juice is boiled in water and taken in.
<i>Crotalaria retusa</i> Aiton. (Fabaceae)	Atasi	Urine formation, diabetes	seed	1 gm of seed paste is mixed with cow milk and taken for some days till cure is established.
<i>Desmodium motorium</i> (Sw.)Dc. (papilionaceae)	Bancharal	Diabetes	Seed,fruit	Taken in leachate-form after soaking the seeds in water for overnight.
<i>Enhydra fluctans</i> Lour. (Asteraceae)	Hinche, Helencha	Rheumatism, eczema	Leaf, Stem	Plant body is crushed into a juice and warmed 2 teaspoon full of which is and taken orally 2 times a day.
<i>Gymnema sylvestre</i> (Retz.)Schult. (Asclepiadaceae)	Gurmer	Cardiac stimulant, diabetes	leaf	One leaf is chewed in the morning and continued till cure is established.
<i>Heliotropium indicum</i> L. (Boraginaceae)	Hatisur	Rheumatism, eczema, fever	Leaf	Leaf juice is mixed with 10 drops water and taken 2 to 3 times per day.
<i>Hemidesmus indicum</i> L. (Periplocaceae)	Anantamul	Asthma, eczema	Leaves	About 3gm of leaves are crushed in water and mixed with salt to prepare a soft drink which is taken 2 times a day, i.e. in the morning and evening.
<i>Hygrophilla schulli</i> (Schumach.)Heine. (Acanthaceae)	Kulekhara	Anaemia,sleepless	Leaf	Young shoots are boiled and taken in pill form.
<i>Justicia adhatoda</i> L. (Acanthaceae)	Basak	Bronchitis, cough asthma	Leaf	An extract prepared by boiling 2 leaves in 250 ml of water is taken orally.
<i>Ocimum sanctum</i> L. (Lamiaceae)	Radhatulsi	Bronchitis, hairfall	Leaf, Root	Firstly 5gm of leaves is taken in 100ml water to which about 25 ml of mustard oil is mixed and boiled. The mixture is cooled and applied on chest and back and massaged.
<i>Paederia foetida</i> (Lour.)Merrill. (Rubiaceae)	Gadal	Dysentery, digestive problem	Leaf	Leaves are pasted to form pills and one such pill is taken once per day and continued till cure is established.

documented are in some cases either very uncommon or novel (Chopra et al., 1969; Mukherjee and Namhata, 1988; Namhata and Mukherjee, 1988; Jain, 1991) Findings of this work are likely to be helpful in discovering new cheap and patient-friendly medicines against such dreadful diseases as diabetes (*Crotalaria sp*), rheumatism (*Enhydra fluctans*, *Heliotropium indicum*), arthritis (*Crotalaria*

procera), asthma (*Hemidesmus indicus*, *Adhatoda vasica*), cardiac disease (*Gymnema sylvestre*), epilepsy (*Coleus amboinicus*), eczema (*Hemidesmus indicus*).

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