



Angiosperms Diversity and Their Ethnic Uses of Joychandi Hill in Puruliya District ,West Bengal

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ABSTRACT

The present paper deals with the investigation of plants of Joychandi Hill in Puruliya District, West Bengal. From Joychandi Hill 38 species representing 36 genera of 20 dicotyledonous families and 06 species of 05 genera of 01 monocotyledonous families have been identified. This Joychandi Hill have a large scope for plant conservation as ethno-botanical uses as a hilly region in the locality in the District of Puruliya

KEYWORDS

Angiosperms diversity , ethno-botanical uses.

INTRODUCTION:

Puruliya, is one of the economically backward and West-ernmost district of West Bengal, is located between 23° 19' 50.23 " North latitudes and 86° 21' 46.91 " East longitudes , covering an area of 6259 Sq. Km with an altitudinal variation from 250 m to 700 m above sea level (Anon, 1985). There are low hills and undulating plateau including the Baghmundi (Avg. altitude 400 m above sea level, rises up to 600 m) and Ajodhya ranges (several peaks with altitude more than 600 m above sea level) in the West (Jain and De 1964). Joychandi Hill is a popular tourist centre and major attraction for rock climbing. The climate of the area is of tropical monsoon type. The soil is of lateritic type and the temperature ranges from 26 to 44° C during summer and from 11-24° C during winter. The rainfall occurs mainly during the months of June, July and August. Maximum rainfall for the district is recorded in the month of July although sometimes it is less than the normal expected rainfall (Mandal and Mukherjee, 2012 b).

MATERIALS AND METHODS:

The present investigations was conducted in the month of November, 2015 which covers the survey of Angiospermic plants including their vernacular name, life span , present status and ethno-botanical uses in the locality. For taxonomic study of plants in rocky habitats adequate literature was consulted (Anon, 1985 ;

Chanda, 2010; Chanda and Mukherjee, 2011, 2013; Dey and De , 2010, 2011 ; jain and De, 1964; Mandal and Mukherjee, 2003, 2007, 2008, 2010, 2012 a, 2012 b, 2014, 2016a, 2016b; Mandal et al, 2003, Prain, 1963,Sannigrahi,2014).The voucher specimens were collected, identified and processed for preservation the herbarium of Sidho- Kanho- Birsha University ,Purulia for further study.

STUDY SITE:

Joychandi hill is 3 Km from Raghunathpur and 2 Km from which is a tourist spot and major attraction for rock climbing. Joychandi hill was familiar as 'hanging pahar' during the reign of king of Kashipur. It was formed by the meeting of Joychandi , Kalipahari and Jugtila hills which are located in Raghunathpur Block in Puruliya District. This hill has 500 steps to go up to top where there is a Chandi temple and a Barjang balir temple (Hanuman mandir). The nearest railway station is also called Joychandi pahar in accordance with its name. The height of the hill is about 1045 feet. Several tribal communities such as Santal, Sardar, Mahali are inhabited in adjoining villages like Jiyara, Michhirdi, Naduyara , Joychandi

, Bakradi etc of Joychandi Hill in Puruliya District. Tribal communities uses plants as ethno-botanical uses like worship and prayer, condiments, food, diseases etc.



Gateway of Joychandi Hill.



Steps to go up to the top of Hill.



A view of Joychandi Hill



Author is at the top of Joychandi Hill.

OBSERVATIONS:

Table 1: An enumeration of plants of Joychandi Hill in Puriya District.

Sl. No	Name of the plant	Family	Vernacular name	Life-span	Status
1	Acacia nilotica (L.) Willd. ex Del.	Mimosaceae	Babla	Perennial	Abundant
2	Achyranthes aspera L.	Amaranthaceae	Chirchiri	Perennial	Abundant
3	Alysicarpus vaginalis (L.) Dc.	Papilionaceae	Alyce clover	Perennial	Common
4	Andrographis paniculata (Burm f.) Wall. Nees.	Acanthaceae	Kalmegh	Annual	Common
5	Anisomeles indica (L.) Kuntze	Lamiaceae	Gobura	Perennial	Less common
6	Apluda mutica L.	Poaceae	Pongta	Perennial	Less common
7	Azadirachta indica A. Juss	Meliaceae	Nim	Perennial	Common
8	Butea monosperma (Lam.) Kuntze	Caesalpinaceae	Palash	Perennial	Abundant
9	Cajanus scarabaeoides (L.) Thouars	Papilionaceae	Catjang	Perennial	Less common
10	Calotropis procera R. Br.	Asclepiadaceae	Akanda	Perennial	Abundant
11	Cassia sophora L.	Caesalpinaceae	Kalkasunda	Perennial	Common
12	Catharanthus roseus (L.) G. Don	Apocynaceae	Nayantara	Perennial	Common
13	Celosia argentea Linn.	Amaranthaceae	Swet-murghaphul	Annual	Common

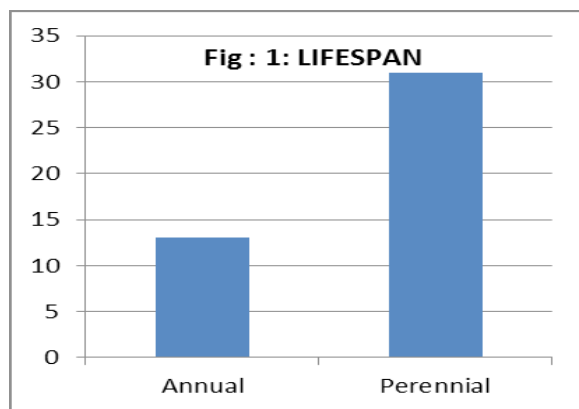
14	Cleome rutidosperma Dc.	Capparidaceae	Suratha	Annual	Common
15	Cleome viscosa L.	Capparidaceae	Suratha	Annual	Common
16	Cocculus hirsutus (L.) Diels	Menispermaceae	Huyer	Annual	Less common
17	Crotalaria albida Heyne	Papilionaceae	-	Perennial	Common
18	Dicliptera paniculata (Forsk.) J. Darbysh	Acanthaceae	-	Annual	Common
19	Ecbolium linneanum Kurz	Acanthaceae	Udu-jati	Perennial	Less common
20	Eisholtzia blanda (Benth.) Benth.	Lamiaceae	Bantulsi	Perennial	Less common
21	Euphorbia hirta L.	Euphorbiaceae	Laokeshra	Annual	Abundant
22	Helicteres isora L.	Sterculiaceae	Aatmochra	Perennial	Less common
23	Heteropogon contortus (L.) P. Beauv. ex Roem. & Schult.	Poaceae	-	Perennial	Common
24	Holoptelea integrifolia (Roxb.) Planch	Ulmaceae	Charrah	Perennial	Common
25	Lantana camara L.	Verbanaceae	Kutush	Perennial	Abundant
26	Leonotis leonurus (L.) R. Br.	Lamiaceae	Hejurchi	Annual	Less common
27	Leucas cephalotes Spreng	Lamiaceae	Halkasa	Annual	Common
28	Nepeta ruderalis Ham.	Lamiaceae	-	Perennial	Less common
29	Nyctanthes arbortristis (L.) R.Br.	Oleaceae	Shiuli	Perennial	Less common
30	Ocimum sanctum L.	Lamiaceae	Tulsi	Perennial	Common
31	Oplismenus compositus (L.) P. Beauv.	Poaceae	-	Perennial	Common
32	Pennisetum polystachion (L.) Schult.	Poaceae	-	Annual	Common
33	Pennisetum typhoideum Rich.	Poaceae	Bajra	Annual	Common
34	Pergularia daemia (Forsk.) Chiov.	Asclepiadaceae	Lataakanda	Perennial	Less common
35	Pupalia atropurpurea (Lam.) Moq.	Amaranthaceae	Kuyaduya	Annual	Common
36	Ricinus communis L.	Euphorbiaceae	Verrah	Perennial	Common
37	Sida acuta Burm f.	Malvaceae	Berela	Perennial	Common
38	Sida cordata (Burm f.) Borss. Waalk.	Malvaceae	Berela	Perennial	Common
39	Solanum sisymbriifolium Lam.	Solanaceae	Sada kantikari	Perennial	Common
40	Streblus asper Lour.	Moraceae	Saora	Perennial	Common
41	Swietenia macrophylla King	Meliaceae	Mehagani	Perennial	Less common
42	Tephrosia purpurea (L.) Pers.	Papilionaceae	Bannil	Perennial	Common
43	Themeda tremula (Nees ex Steud.) Hack.	Poaceae	Trumpet vine	Perennial	Common
44	Tridax procumbens L.	Asteraceae	Bhuiamla	Annual	Abundant

Table 2: Ethno-botanical uses of some collected species of Joychandi Hill in Puruliya District.

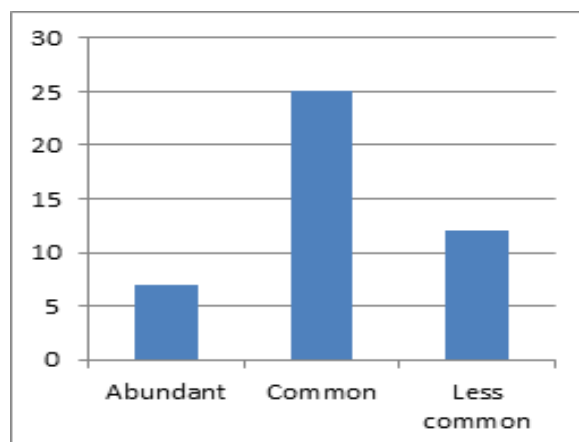
SINo	Dis-eases/ Others	Name of plants	Family	Parts used	Methods of use
1	Ab-dominal pains in infants	Helicteres isora L.	Sterculiaceae	Fruits	Decoction is applied after-boiling with mustard oil.
2	Anthrax disease of chicken	Euphorbia hirta L.	Euphorbiaceae	Leaves	Crushed leaves are given along with seeds of Brassica nigra.
3	Bleeding of female	Calotropis procera R. Br.	Asclepiadaceae	Petiole with latex	To be Chewed along with leaf of Piper betle
4	Blood sugar	Catharanthus roseus (L.)G.Don	Apo-cynaceae	Leaves	Chewed.
5	Condiments	Cleome rutidosperma Dc.	Capparidaceae	Seeds	Seeds are eaten after frying along with fruits of Carica papaya.
		Cleome viscosa L.	Capparidaceae	Seeds	Seeds are eaten after frying along with fruits of Carica papaya.
6	Dermatitis	Andrographis paniculata (Burm f.) Wall. Nees.	Acanthaceae	Leaves	Crushed leaves are pelleted, dried and used.
		Azadirachta indica A. Juss.	Me-liaceae	Leaves	Crushed leaves made into tablets, dried and taken.
		Calotropis procera R. Br.	Asclepiadaceae	Latex	Latex are mixed with mustard oil and applied in form of ointments.
7	Dysentery	Sida cordata (Burm f.) Borss. Waalk.	Malvaceae	Leaves	Crushed leaves are used.
		Andrographis paniculata (Burm f.) Wall.Nees	Acanthaceae	Leaves	Crushed leaves are pelleted, dried and used.
8	External injury	Tridax procumbens L.	Asteraceae	Leaves	Given to the form of extract.
9	High blood pressure	Catharanthus roseus (L.) G. Don	Apo-cynaceae	Leaves	Crushed leaves are eaten.
10	Malaria	Acacia nilotica (L.) Willd. ex Del.	Mimosaceae	Bark	Crushed bark are eaten.
		Andrographis paniculata (Burm f.) Wall. Nees	Acanthaceae	Leaves	Crushed leaves are eaten.
		Butea monosperma (Lam.) Kuntze	Caesal-piniaceae	Bark and gum	Crushed bark and gum are eaten.
11	Ring-worm	Ocimum sanctum L.	La-miaceae	Leaves	Leaves are rubbed on the spot along with salt.
12	Sacred plants and worshipped	Ocimum sanctum L.	La-miaceae	Leaves	Used as sacred plants and worshipped.
		Streblus asper Lour.	Moraceae	Young twigs	Used as sacred plants and worshipped.
13	Ulceration of mouth	Butea monosperma (Lam.) Kuntze	Caesal-piniaceae	Young branch	The stem burnt at one end and the exudates collected at the other end.

RESULT AND DISCUSSION:

During field survey on Joychandi Hill in Puruliya District 38 species representing 36 genera of 20 dicotyledonous families and 06 species of 05 genera of 01 monocotyledonous families have been investigated (Table 1). After collection, voucher specimens were processed for preservation and their lifespan, present status and ethno-botanical uses were studied. Out of 44 species 31 species are perennial and 13 species are annual (Fig. 1) where as 25 species are common, only 07 species (*Acacia nilotica*, *Achyranthes aspera*, *Butea monosperma*, *Calotropis procera*, *Euphorbia hirta*, *Lantana camara* and *Tridax procumbens*) are abundantly present and 12 species (*Anisomeles indica*, *Apluda mutica*, *Cajanus scarabaeoides*, *Cocculus hirsutus*, *Ecbolium linneanum*, *Elsholtzia blanda*, *Helicteres isora*, *Leonotis leonurus*, *Nepeta ruderalis*, *Nyctanthes arbortristis*, *Pergularia daemia* and *Swietenia macrophylla*) are less common in the taxonomic studies in District of Puruliya (Fig. 2).



Ethno-botanical uses such as diseases, condiments and sacred uses of some investigated species are also studied (Table 2). Out of 44 species 11 species have medicinal value against 11 diseases and 02 species (*Cleome rutidosperma* and *Cleome viscosa*) are useful as condiments and only two species (*Ocimum sanctum* and *Streblus asper*) are used as sacred plant and worship during Saharai and Nagardola festivals in Puruliya District (Mandal and Mukherjee, 2003). Several species such as *Calotropis procera* are useful in bleeding of female and dermatitis, *Butea monosperma* is used in ulceration of mouth, *Helicteres isora* is used in abdominal pains in infants and seeds of *Cleome rutidosperma*, *Cleome viscosa* are used as condiments is noteworthy in the District of Puruliya.



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