

Survey of Common Poisonous Plants of Birbhum, Burdwan, and Nadia Districts of West Bengal, India

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Abstract Poisonous plants can be of immense economic importance. Several poisonous plants can be a source of medicines. Research on poisonous plants of East India is largely missing. With paucity of information about poisonous plants in West Bengal, India, we conducted a survey of common local plants, such that they can be later utilized for economic purposes. The survey of tribal villages in 3 districts of West Bengal resulted in identification of 27 poisonous plants that are presented in the paper.

Keywords Poisonous plants, Poisonous action, Constituents, Birbhum, Burdwan, Nadia

1. Introduction

The knowledge of poisonous plants in all over the world is useful for two main reasons. Firstly, the concern for humans and animals health due to its consumption and secondly, poisonous plants present a potential source for discovery of novel medicines. Plant poisons usually are mixture of different compounds and eventual isolation of the individual components was the driving motivation for this study.

2. Materials and Methods

The study area included regions of Nadia, Birbhum and Bardhaman. We specifically targeted tribal villages for this work. The climate of these regions is tropical savanna and sub-tropical in nature. Plants were identified, photographed and collected. The collected specimen were dried and preserved in the herbarium sheet after spraying 0.2% mercuric chloride. Our survey relied on detailed conversations and field observations. An average interview with village elders in the tribal villages lasted around 15 minutes.

3. Results

The survey lasted 4 months. Several plants encountered in one village were also found in another village. All these plants were common to all the three districts that were studied. Although few supposedly active ingredients have been identified in these plants, we ignored their mention as none of them have been established to be the main active ingredient or even causal to symptoms of poisoning. The plants encountered in our survey are arranged alphabetically in a tabular form in table 1. Figure 1 shows pictures of some of the common poisonous plants encountered in this study.

4. Conclusions and Discussion

The poisonous plants of India have been described (Jain 1991, 1999; Caius 2003) before but specific examination of the three districts of West Bengal, explored in this study, has not been conducted. In contrast, Rajasthan has witnessed extensive survey of plants, including poisonous plants (Bahndari, 1978; Shetty and Singh, 1993; Joshi, 1995; Singh and Pandey, 1998; Katewa *et al*, 2001; Katewa *et al*, 2003; Katewa *et al*, 2004; Katewa *et al*, 2006; Jain *et al*, 2004; Jain *et al*, 2005; Katewa and Galav, 2005; 2006). Our study is the first of its kind to start exploring the poisonous plants of this region. We expect detailed quantitative studies that are exhaustive in nature to follow this. We also expect a thrust in the area of isolation of active ingredients from these plants.

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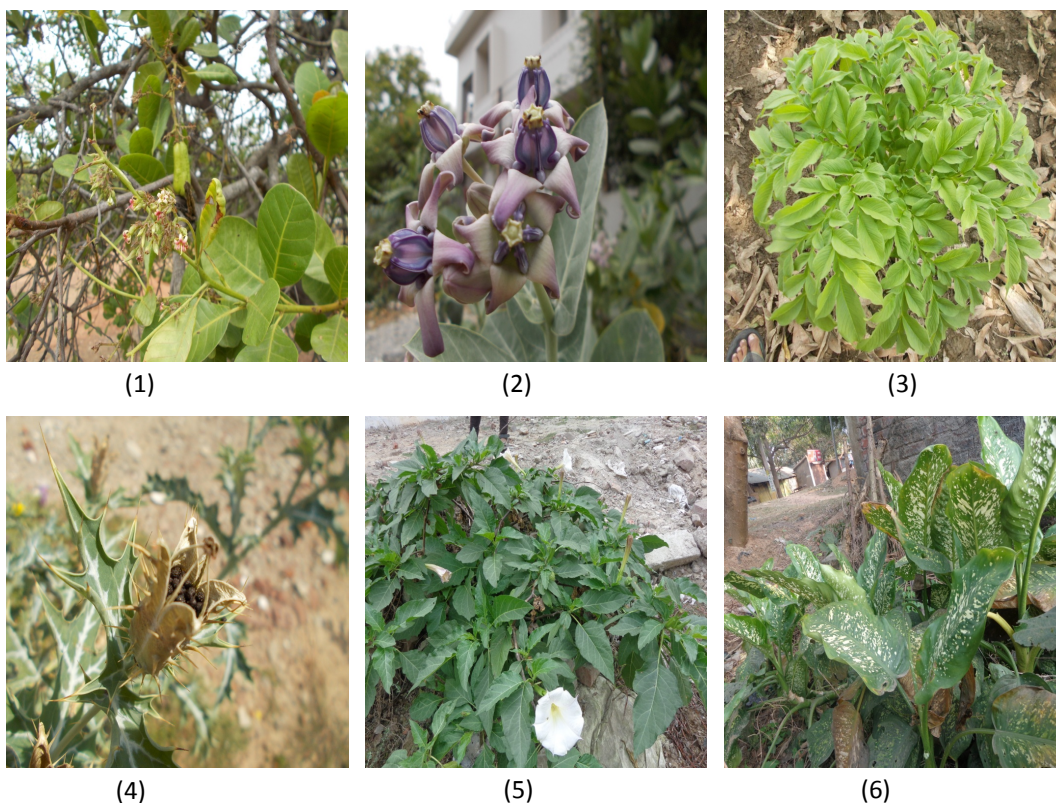
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Table 1. List of poisonous plants surveyed in the survey of tribal villages of Nadia, Birbhum and Bardhaman

Botanical Name	Family	Common name in Bengali	Habit and habitat	Poisonous parts of the plant	Poisonous Action
<i>Anacardium occidentale</i> L.	Anacardiaceae	Cashew apple, (Kolke)	Terrestrial, Tree	Fruit	Skin irritant, can induce kidney stone formation
<i>Argemone mexicana</i> L.	Papaveraceae	Mexican poppy, (Barashilkantal)	Terrestrial, Herb	Seeds	Emetic and narcotic
<i>Calotropis gigantea</i> (Aiton) R.Br	Apocynaceae	Milkweeds, (Akon do)	Terrestrial, Shrub	Latex, Root bark	Harmful to eyes
<i>Cannabis sativa</i> L.	Cannabinaceae	Indian Hemp, (Ganja)	Terrestrial, Shrub	Dried Flowers and Fruits	Depression, hallucination and even death
<i>Catharanthus roseus</i> (L.) Don	Apocynaceae	Madagascar rosy periwinkle, (Nayantara)	Terrestrial, Herb	Roots and Shoots	Cardiac poison
<i>Cucumis trigonus</i> Roxb.	Cucurbitaceae	Daddy melon, (Bunopotol)	Terrestrial, Creeper	Root and Fruits	Emetic
<i>Datura alba</i> Nees.	Solanaceae	Thorn apple, (Dhutra)	Terrestrial, Shrub	Whole Plant, Seed	Can cause delirium, fainting, and Death
<i>Gloriosa superba</i> L.	Liliaceae	Tiger claw, (Ulatchandal)	Terrestrial, Climber	Tuberous root	GIT irritant, and respiratory poison
<i>Jatropha curcus</i> L.	Euphorbiaceae	Physic Nut, (Danti)	Terrestrial, Shrub	Seeds, leaf, flower, roots, nuts	Vomiting, and diarrhea
<i>Kaempferia rotunda</i> L.	Zingiberaceae	Indian Crocus	Terrestrial, Herb	Juice of Tubers	Nausea and vomiting
<i>Lantana camara</i> L.	Verbenaceae	Big sage	Terrestrial, Shrub	Whole plant	Injury to liver, and death
<i>Moringa pterygosperma</i> Gaert.	Moringaceae	Horseradish tree, (Sojina)	Terrestrial, Tree	Bark, Roots and leaves	Vomiting, and eye irritant
<i>Mucuna pruriens</i> L.	Fabaceae	Velvet bean, (Akolchi)	Terrestrial, Climbing Shrub	Fruits and Seeds	Skin irritant
<i>Nerium oleander</i> L.	Apocynaceae	Oleander, (Karabi)	Terrestrial, Shrub	Leaves	GIT, eye, and skin irritant, and can cause cardiac arrhythmia
<i>Papaver somniferum</i> L.	Papaveraceae	Opium poppy capsules, (Posto)	Terrestrial, Shrub	Ripe and Dried capsules, petals seeds	Depression, and hallucination
<i>Parthenium hysterophorus</i> L.	Asteraceae	Congress Grass (Parthenium)	Terrestrial, Herb	Seeds and leaves	Eczema and allergic dermatitis on contact
<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Ceylon leadwort, White leadwort, (kutki)	Terrestrial, Herb	Root	External rashes and GIT irritation
<i>Ricinus communis</i> L.	Euphorbiaceae	Castor oil plant, (Rerhi)	Terrestrial, Tree	Seed	Vomiting, colic, gastroenteritis, and circulatory collapse
<i>Strychnos nux-vomica</i> L.	Loganiaceae	Strychine tree	Terrestrial, Tree	Stem bark, Dried ripe seeds	Spinal poison, can cause convulsion, and even death
<i>Tragia involucrata</i> L.	Euphorbiaceae	Indian Stinging Nettle, (Bichhuti)	Terrestrial, Climbing Shrub	Leaf, Fruit, Root	Itching
<i>Trichosanthes cucumerina</i> L.	Cucurbitaceae	Snake Gourd, (Chichinghe)	Terrestrial, Shrub	Juice of whole plant	Vomiting
<i>Blumea lacerata</i> L.	Asteraceae	False ox-tongue	Terrestrial, Herb	Whole plant	Eliminates insects
<i>Dieffenbachia bowmanii</i> Carrière	Araceae	Dumb cane, (Patabahar)	Terrestrial, Herb	Leaf	Burning sensation skin and erythema
<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Indian devil tree (Chattim in)	Terrestrial, Tree	Bark, pollen and leaf	Asthma, cytotoxic effect.
<i>Cascabela thevetia</i> (L.) Lippold	Apocynaceae	Yellow oleander, luckynut (Kolke in beng)	Terrestrial, Tree	Seed	Gastric, Cardio toxic effects, Death
<i>Codiaeum variegatum</i> (L.) A. Juss	Euphorbiaceae	Garden croton (paatabahar)	Terrestrial, Herb	Latex	Eczema, Purgative
<i>Crotalaria mucronata</i> Desv.	Fabaceae	Rattlepods	Terrestrial, herb	Seeds	Chronic poisoning in cheek



- (1) *Anacardium occidentale* L.,
 (2) *Calotropis gigantea* (Aiton) R.Br.,
 (3) *Amorphophallus paeoniifolius* (Dennst.) Nicolson,
 (4) *Argemone mexicana* L.
 (5) *Datura alba* Nees.
 (6) *Dieffenbachia bowmanii* Carrière

Figure 1.

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