



**International Journal of Biology, Pharmacy
and Allied Sciences (IJBPAS)**

'A Bridge Between Laboratory and Reader'

www.jbpas.com

IDENTIFICATION AND ETHNO-MEDICINAL SURVEY OF *BEGONIA PICTA SMITH*

IN SATPUDA HILLS, DISTRICT OF NANDURBAR, MAHARASHTRA, INDIA

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Received 4th June 2020; Revised 8th July, 2020; Accepted 16th Aug. 2021; Available online 1st July, 2022

<https://doi.org/10.31032/IJBPAS/2022/11.7.6193>

ABSTRACT

Aim of this survey to provide ethnomedicinal evidences that supports to identify & explore *begonia picta smith* ayurvedic and allopathic for immediate use of herb. In present ethnomedicinal study to collect information from local rural and tribal population living in Akkalkuwa tehsil district of Nandurbar, Maharashtra concerning the most important uses of *begonia picta* plant to determine the potential medicinal value for wide area of diseases and clinical conditions. Quantitative ethanopharmacological data collections were done by semi structured questionnaire, interviewee's personal information, group discussions, field walk with 100 informants including traditional healers, community elders and topics related to the medicinal use of *begonia picta smith*. Most of informants interviewed with known as a safe plant for raw eating, used in pain, fever, headache. Documenting such traditional information of valuable medicinal plant and practices is highly essential for future management and conservation strategies of *begonia picta smith* resources.

Keywords: *Begonia picta smith*, medicinal, ethanobotany, Tribal community, Traditional

INTRODUCTION

The term “ethno botany” was first coined in 1896 by the American botanist John Harshberger as the study of plants used by primitive and native people [1]. The sub district Akkalkuwa falls in Nandurbar district situated in Maharashtra state lies in Satpuda range of hills, with Narmada river forming northern boundary. Dhadgaon and Taloda talukas lie on the east while southern and western boundaries are occupied by Gujarat and Madhya Pradesh state. Because of the hilly land with more than seventy five percent area falling under forest. The tehsil extends between 21° 33' 0" N, 74° 1' 12" E with a population 325108. The male and female populations are 168772 and 156336 respectively. The size of the area is about 1093.68 square kilometer. Density of population is 297 people per km. The climate of Akkalkuwa tahsil is fairly healthy more rainfall than the rest of the region. During the cold season in the DAB village thermometer at night falls up to freezing point. The tahsil is rich in forest and biodiversity and miscellaneous types of trees such as mahu, palmrose etc. Minor forest produce of commercial importance such as Strawberry, Olme, Amla, have been collected in large quantity from the forest of the tahsil for hundreds of year [2].

A Traditional health care practice of indigenous people pertaining to human being known as ethnomedicine. Ethno medicine is the mother of all other systems of medicine such as Ayurveda, Siddha, Unani, Nature cure and even modern medicine. As herbal medicine is the first level of contact for rural people when they require medical care. it is imperative for researcher, taxonomist, botanist to take immediate steps to introduce the use of traditional medicine by imparting identification of various medicinal plants and their usage for the treatment of common diseases. There is need to explore the medicinal properties of plants, which are unexplored still used in traditional medicine, through careful observation and validation for application.

Documentation of various medicinal plants and herbs, which are used to treat common diseases, should be developed. For the conservation of medicinal plants. This type of initiative will enable the developing countries to look within rather than continuing to rely on expensive, imported medicines having side effects. *Begonia picta smith* is native plant of Himalayan region of India. Documentation of indigenous plant through knowledge of ethno botanical studies

and scientific knowledge is very important today. Further scientific and systemic explorations regarding the utilization of medicinal herbs have great contribution for value addition in indigenous plant [3, 4].

Plant Profile: [5-7]



Figure 1: *Begonia Picta* Smith

a. Taxonomy

- Kingdom: Plantae
- Phylum : Tracheophyta
- Class : Magnoliopsida
- Order : Cucurbitales
- Family : Begoniaceae
- Genus : *Begonia*
- Species : *picta*
- Scientific name: *Begonia picta smith*.

b. Common names

- Marathi : Magarkanche, Pathharchatta
- Hindi : Patharchatta
- English : Painted leaf begonia
- Synonym: *begonia echinata*

c. Description and Distribution

Rootstock one of few tubers, plant 6–15 in. Inflorescence scarcely and exceeding the

leaves; stem obscurely pubescent. Leaves 3–5 by 2–3 in., nearly equally cordate, doubly fine serrate, pilose above, villous on the nerves beneath; petiole of the cauline leaf usually 1 in. at least; stipules lanceolate, hairy, scarcely exceeding the leaves. Peduncle pubescent upwards; bracts oblong-lanceolate, persistent, pubescent. Flower outer segments 2, pubescent; petals 2, smaller; stamens shortly monadelphous, anthers obovoid; connective not produced. Female flower perianth of 4–5 segments, outer larger, pubescent; styles 3, nearly separate, divided half way up into two tortulose branches. Capsule large a 1inch. pubescent; one wing $\frac{1}{4}$ in. broad, another $\frac{1}{2}$ in., the third $1\frac{1}{2}$ in.; styles persistent; wings slightly ascending, dehiscing by the 3 faces falling off. Seeds light brown, shortly ellipsoid. It is distributed Indigenous to Western Ghats Ahmadnagar, Mumbai, Kolhapur, Nasik, Pune, Raigad, Ratnagiri, Sindhugurg, Satara, Thane, in satpuda region Devgui Akkalkuwa [8]

d. Traditional Uses [9]

- Whole plant is used in pained nipple.
- Whole plant Juice is taken to relieve headache.
- Young shoot Paste also taken for respiratory tract infections.
- It is used in dysentery and mouth ulcer

MATERIALS & METHODS

Study area and its climate

The sub district Akkalkuwa falls in Nandurbar district situated in Maharashtra state lies in Satpuda range of hills, with Narmada river forming northern boundary. Nandurbar district receives from south-west monsoon which advents in the month of June and keeps up to the month of September. The region falls under assured rainfall zone. Approximately 70% area in the district receives 704.7 mm to 1280 mm rain. The average rainfall in the district is 801 mm

per annum. During the cold season in the DAB village thermometer at night falls up to freezing point the climate of Akkalkuwa tehsil is fairly healthy. The ethnomedicinal survey was conducted in 04 villages of tribal population during May 2019 to October 2020. The villages were selected based preliminary interviews conducted during April to September 2018 in 05 villages to find out the potentials of ethnical practices by rural and tribal community using *begonia picta smith* plant by traditional way for curing the different ailments.

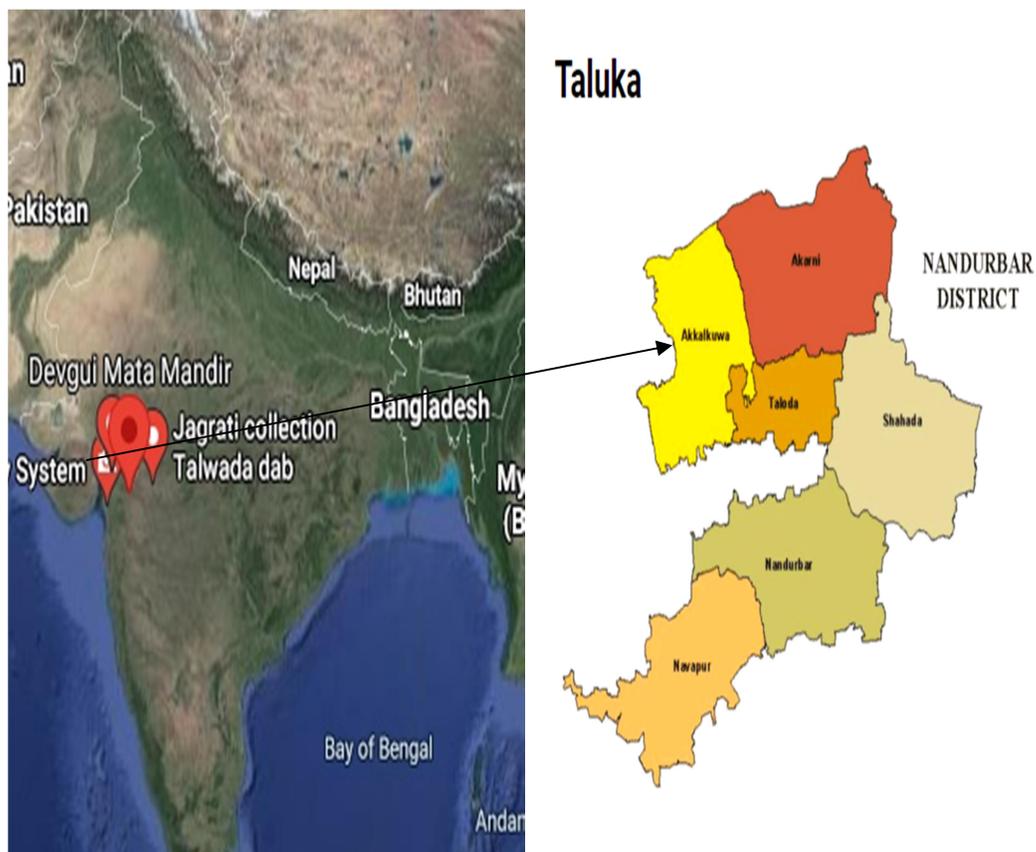
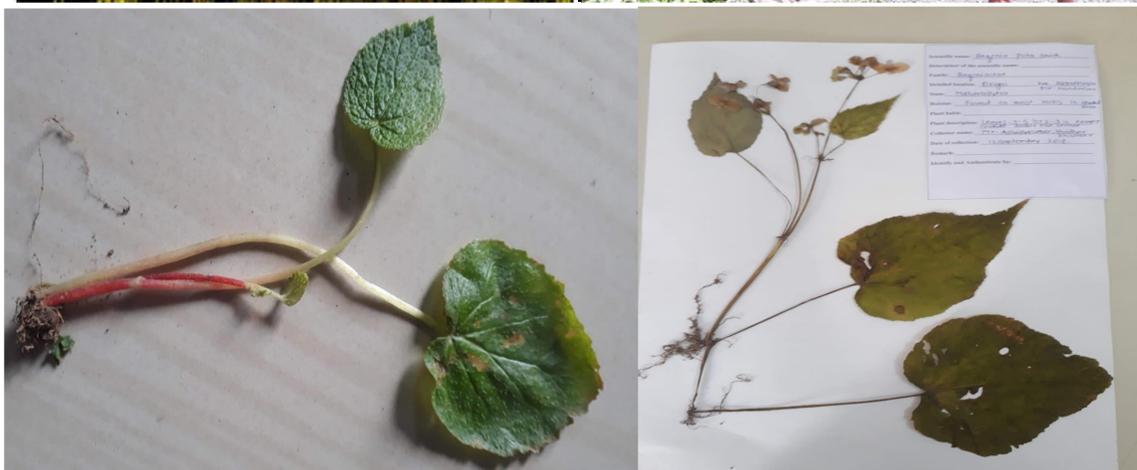


Figure 2: Map showing the location of akkalkuwa, district Nandurbar



Figure 3: Map Showing the Location of Study Area



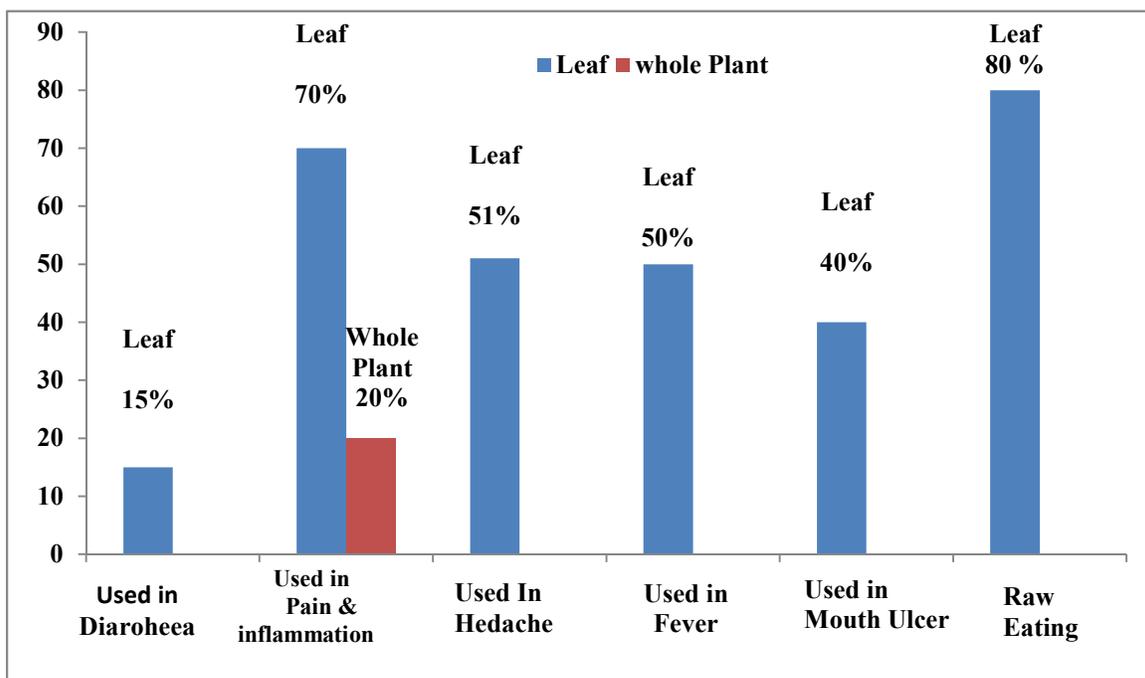
METHODOLOGY & INTERVIEWS

The survey was conducted during period of May 2019 to October 2020. The ethno botanical data were collected from 100 peoples using semi questionnaire, interviews and discussions in their local dialect with the herbal practitioners, old men and women including young settlers in the community. Questions on Ethnomedicines inquired on modes of preparation powder, boiled, etc. administration (oral or dermal), uses plants,

ease of intake and parts of plants. The investigation reveals that the tribal's people used the *begonia picta smith* for raw eating, treatment of diarrhoea, stomach disease headache, Respiratory complaints, fever, inflammation, etc. All the data collected were organized through Microsoft Excel. The details Demographic Data of the informants and conventional uses of plant shown in **Table 1**, and in **Graph 1**.

Table 1: Parts of medicinal plants used in different disorder and treatment by traditionally in the study area

Plant Part	Parts of medicinal plants used in different disorder and treatment by traditionally					
	Used in diarrhea,	Used in Pain&inflammation	Used in Headache	Used in Fever	Used in Mouth ulcer	Raw eating
Leaf	15	70	51	50	40	80
Whole plant	0	20	0	0	0	0



Graph 1: Parts of medicinal plants used in different disorder and treatment by traditionally

Plant Material Authentication:

The identity of plant species *begonia picta smith* mentioned by the interviewees was verified and confirmed by a professional botanist using live specimens and photographs. The plant authenticated by Dr. Priyanka A. Ingale, Scientist B, Botanical Survey of India, Pune (Voucher Specimen number- 01) by comparing morphological features and a sample voucher specimen of plant was deposited for future reference.

RESULT & DISCUSSION

In the present survey informants identified *Begonia picta smith* plant leaves, whole plant is used by rural and tribal community in traditional medicine for the treatment of various diseases in the study area. Most of the locals interviewed dealt with well-known safe medicinal plant leaves & whole plant with use value of 15% used in diarrhea, 70% used in pain and inflammation, 51% used in headache, 50% used in fever, 40% used for treating mouth ulcer and 80% for raw eating only.

Ethnobotanical uses of *begonia picta smith* have wide range in India. Precise isolation of bioactive compounds has yet to be unanswered from this particular plant. Further investigation on the pharmacological activities may be very demanding for the development of useful and less toxic natural

based drugs. Ethnobotanical research is very crucial and integral in the development of drugs from natural sources.

With this study it is noteworthy, that *begonia picta smith* plant, which known to be used for the treatment of various illnesses mentioned by the local population from the study area and knowledge received from them useful in further biological exploration of *begonia picta smith*.

CONCLUSION

It is learned from the present ethanobotanical investigation in different sites of area and from the participation of the local community in most of study sites and direct communication and visit took place to all mentioned sites, the identified facts as The knowledge of the local medicinal plant is not as expected the people seems ignorant about the majority of their native medicinal plant Most of medicinal Plants are used by locals in different sites of the study mainly for pain relief and raw eating. Based on this survey, it was found the use of medicinal herbs is declining in most of investigated areas like grazing, road constructions, forest destruction's, lack of public awareness. So it is necessity to deal carefully with such plants about exact identity and use.

Conflict of Interests

There is neither financial nor non-financial conflict of interest among authors as regards this study

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