

Plant names and uses as indicators of knowledge patterns

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Cross-cultural comparison of ethnobotanical knowledge of various communities can bring out the different patterns of knowledge held by them. The paper looks into the knowledge patterns among the *Kondh*, *Poraja*, *Hill Bonda* and *Gadaba* of the Koraput region by comparing their knowledge on 20 different plants.

Keywords: Ethnobotany, *Kondh*, *Gadaba*, *Poraja*, *Hill Bonda*

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Orissa is well known for its natural resources and cultural diversity. With 63 tribal communities, the state has the second largest tribal population in India¹⁰. Yet, the splendid ethnic diversity that is characteristic of Orissa, offers great scope for a deep understanding of the inter-relationship between human beings and nature. Of all the tribal communities inhabiting the state of Orissa, The *Kondh*, *Poraja*, *Gadaba* and *Bonda* still largely retain their traditional life style in the Koraput region, which implies that their ethnobotanical knowledge is also retained and put into practice daily. The *Kondh* and *Poraja* belong to the Dravidian family^{11,12}. The *Kondh* are included under two linguistic groups, called *Kui* and *Kuvi* while the *Poraja* speak another Dravidian dialect, called *Parji*. The *Gadaba* and *Bonda* belong to the Austro-asiatic stock and speak the languages *Ollari* and *Remo*, respectively^{13,14}. For all these communities, *Oriya* is becoming a common link language. The paper looks into the relationship between the plant resources and knowledge among 4 communities based on 20 plant species that are used commonly.

Methodology

The field work was carried out during 2003-2005 in collaboration with Integrated Rural Development of Weaker Sections in India (IRDWSI), a Non-Governmental Organisation based in Semiluguda of

Koraput district. The ethnobotanical knowledge of each community was studied from 4 villages that were selected on the basis of remoteness, proximity to forests as well as the rapport established by IRDWSI. Thus, for all the 4 communities studied, a total of 16 villages spread in 2 districts namely, Koraput and Malkangiri were covered. The villages studied were *Kondh Pungar*, *Putisil*, *Chiklamari*, *Banduguda*, *Poraja Pungar*, *Khojuriguda*, *Panasput*, *Gullel*, *Dokriguda*, *Pipalguda*, *Chompakanda* and *Mojikundali* of Koraput district, *Sillaiguda*, *Bodbel*, *Dumripoda* and *Bondapoda* of Malkangiri district. Community meetings were organized in all the selected villages and Prior Informed Consent was taken. An undertaking was also given that the documented information will be shared with the community in the local language, at the end of the research programme. The ethnobotanical knowledge was studied using semi-structured interviews and by organizing field trips. Around 200 plants were documented, of which 20 plants that were used by either at least 3 or all the 4 communities were selected for this cross-cultural analysis (Table 1). The plants selected also happen to be plants whose knowledge is in the common domain and not unique to any particular individual or family. A knowledge attributed to a particular plant, if found to be in possession of more than 50% of the adults of the age group 20 yrs and above, was considered as knowledge common to the community. Hence the names of individual knowledge holders could not be provided.

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Table 1— Plants used by the local communities

Binomial	Local name			
	<i>Kondh</i>	<i>Poraja</i>	<i>Gadaba</i>	<i>Bonda</i>
<i>Aegle marmelos</i> (L.) Correa	<i>Aam pothru</i>	<i>Bhel goch</i> *	<i>Gadhia</i>	<i>Bhel</i> *
<i>Alstonia venenata</i> R. Br.	<i>Mangla jatti</i>	<i>Koodoi</i> *	<i>Bodh kudo</i>	<i>Opudeyser, Uida</i>
<i>Ardisia solanacea</i> Roxb.	<i>Lidi kutti, Reedikki</i>	<i>Goli</i>	<i>Kitti gocho</i>	<i>Nbong thithi</i>
<i>Asparagus racemosus</i> Willd.	<i>Pennu heppori</i>	<i>Devaatni</i> *	<i>Koori boota</i>	<i>Isengo</i>
<i>Bombax ceiba</i> L.	<i>Lekha marnu</i>	<i>Simili</i> *	<i>Simili</i> *	<i>Simili</i> *
<i>Breynia retusa</i> (Dennst.) Alston	<i>Koyunatheri</i>	<i>Hathi Girli</i>	<i>Sathodi gosch</i>	<i>Simosing, Phulbani</i>
<i>Casearia graveolens</i> Dalzell	<i>Kissi</i>	<i>Girchi</i> *	<i>Girchi</i> *	<i>Burey</i>
<i>Clematis roylei</i> Rehder	<i>Gana madi</i> *	<i>Gana madi</i> *	<i>Gana madi</i> *	<i>Gana madi</i> *
<i>Cryptolepis buchananii</i> Roem. & Schultes	<i>Paalu mada</i>	<i>Doodh mal</i> *	<i>Doodh oso</i> *	<i>Ae_oosi</i>
<i>Cynodon dactylon</i> (L.) Pers.	<i>Garki</i> *	<i>Garki</i> *	<i>Garuki</i> *	<i>Saepsa</i>
<i>Pogostemon stellatus</i> (Lour.) Kuntze	<i>Paka puyu</i>	Anonymous	Anonymous	Anonymous
<i>Holarrhena pubescens</i> (Buch. – Ham.) Wall. ex G. Don	<i>Paalsi</i>	<i>Paalsi</i>	<i>Kudo</i> *	-
<i>Indigofera cassioides</i> Rottl. ex DC.	<i>Leda</i>	<i>Girli</i> *	<i>Girli</i> *	-
<i>Lannea coromandelica</i> (Houtt.) Merr.	<i>Kanbeli marnu, Paalkara</i>	<i>Pithmari</i> *	<i>Pithmari</i> *	<i>Porantha</i>
<i>Litsea glutinosa</i> (Lour.) C.B. Rob.	<i>Tangia achina</i> *	<i>Tangia achina</i> *	<i>Tangia achina</i> *	<i>Tangia achina</i> *
<i>Mimosa pudica</i> L.	<i>Gori saveli</i>	<i>Billaigatta</i>	<i>Lach kutti</i> *	<i>Lemo sac</i>
<i>Mucuna pruriens</i> (L.) DC.	<i>Tuda</i>	<i>Rundul</i> *	<i>Kacheng</i>	<i>Rundul</i> *
<i>Oroxylum indicum</i> (L.) Benth. ex Kurz.	<i>Rachu peppeni</i>	<i>Pappeni</i> *	<i>Pappeni</i> *	<i>Pappeni</i> *
<i>Paederia foetida</i> L.	<i>Pith jada</i>	<i>Goomal</i> *	<i>Goomal</i> *	<i>Suso kooni</i>
<i>Schleichera oleosa</i> (Lour.) Oken	<i>Kosomi marnu</i>	<i>Pooji</i>	<i>Koshum</i> *	<i>Koshum</i> *

Table 2— Plants and uses

Plants	Uses			
	<i>Kondh</i>	<i>Poraja</i>	<i>Gadaba</i>	<i>Bonda</i>
<i>Aegle marmelos</i> (L.) Correa	Leaves to cure cough; plant used in rituals	Leaves in veterinary skin infections; plant in rituals	Leaves to cure chicken pox; whole plant in rituals; stem in construction	Leaves to cure chicken pox
<i>Alstonia venenata</i> R.Br	Bark added to brew	Bark added to brew; bark to cure stomachache	Bark added to brew	Flowers as anti-lice; and rituals
<i>Ardisia solanacea</i> Roxb.	Fruits edible; And used in fits	Fruits edible; and used in eye pain	Fruits edible; leaves as vegetable	Fruits edible; plant used in rituals
<i>Asparagus racemosus</i> Willd	Tuber as febrifuge	Tuber to cure stomach pain	Plant in rituals	Tuber to cure stomach pain; plant in rituals
<i>Bombax ceiba</i> L.	Bark in body wash	Bark to cure swellings; stem in construction	Stem in rituals	Not used
<i>Breynia retusa</i> (Dennst.) Alston	Fruits for dysentery; root for fits	Not used	Fruits in dysentery	Fruits for dysentery; twigs for toothache
<i>Casearia graveolens</i> Dalzell	Non-edible oil; stem in furniture & construction	Non-edible oil	Non-edible oil; stem in furniture & construction	Edible oil; fruits as vegetable
<i>Clematis roylei</i> Rehder	Leaves for cough	Leaves for cough	Leaves for cough	Plant in rituals
<i>Cryptolepis buchananii</i> Roem. & Schultes	Roots as galactogogue	Tender leaves as galactogogue	Roots as galactogogue	Leaves in rituals
<i>Cynodon dactylon</i> (L.) Pers.	Plant in rituals	Plant in rituals	Plant in rituals	Root as febrifuge
<i>Pogostemon stellatus</i> (Lour.) Kuntze	Flowers as febrifuge; for fits; in rituals	Flowers as febrifuge	Flowers as febrifuge	Leaves as mosquito repellents
<i>Holarrhena pubescens</i> (Buch.-Ham.) Wall. ex G.Don	Bark in brew and as anti-lice	Bark for brew	Bark for brew and bark in post-partum care	-
<i>Indigofera cassioides</i> Rottl. ex DC.	Flowers as vegetable	Flowers as vegetable; bark in post-partum care	Flowers as vegetable	-

Contd —

Table 2—Plants and uses —*Contd*

Plants	Uses			
	<i>Kondh</i>	<i>Poraja</i>	<i>Gadaba</i>	<i>Bonda</i>
<i>Lannea coromandelica</i> (Houtt.) Merr.	Twigs as toothstick	Twigs as tooth stick; bark for skin diseases; tender leaves for stomachache	Twigs as tooth stick; roots for stomachache	Twigs as tooth stick; bark in brew
<i>Litsea glutinosa</i> (Lour.) C.B. Rob.	Bark for injuries	Bark for injuries	Bark for injuries	Bark for injuries
<i>Mimosa pudica</i> L.	Root for swellings	Root for injuries andr ache	gum Whole plant to induce love	i) Flowers to ease delivery ii) leaves to induce sleep
<i>Mucuna pruriens</i> (L.) DC.	Fruits as veterinary anthelmintic	Fruits as veterinary anthelmintic	Fruits as veterinary anthelmintic	-
<i>Oroxylum indicum</i> (L.) Benth. ex Kurz	Bark for snake bite	Bark for snake bite, measles and in rituals	Bark for snake bite, reduce pain and tonic	Bark for snake bite
<i>Paederia foetida</i> L.	Whole plant in rituals	Whole plant in rituals	Whole plant in rituals	Whole plant in rituals
<i>Schleichera oleosa</i> (Lour.) Oken	Non-edible oil; bark for skin diseases and sprainssprains	Non-edible oil; bark for	Non-edible oil; bark for-sprains	

Results and discussion

Of the 20 plants, 14 plants were used by all 4 communities and 19 plants by *Kondh*, *Poraja* and *Gadaba*. The results explain two major patterns related to knowledge and plant resources.

Knowledge and availability of resources

There seem to be a relationship between availability of resources and associated knowledge of the community. *Bombax ceiba* L., *Mucuna pruriens* (L.) DC. and *Schleichera oleosa* (Lour.) Oken were not available in the *Hill Bonda* locality and hence did not find a place in their knowledge domain. However, these plants are available in the locality, where the other tribes inhabit and are also used for various purposes by these communities (Table 2) as well as recognised by a local name in their own languages. This shows the direct linkage between availability of the resource and the associated knowledge. There is also a direct link among the knowledge, use of a plant resource and the associated plant names. Though a plant exists in the vicinity of the community, the community often doesn't recognise the presence of that plant if it doesn't occur in the 'use domain'. In other words, though a plant is physically present, it is virtually absent for the community since they do not have any direct relationship with it. However, they do recognise such plants if they are used by the neighbourhood communities, which include non-tribals. *Holarrhena pubescens* (Buch. – Ham.) Wall. ex G. Don though available in the *Bonda* vicinity is not used by them, yet recognised without a name assigned to it.

Knowledge flow among communities

Knowledge on certain plant resources is common to all the 4 communities either because the plant sources occur commonly in all the localities or because of knowledge diffusion. Five plants, *Ardisia solanacea* Roxb., *Lannea coromandelica* (Houtt.) Merr., *Litsea glutinosa* (Lour.) C.B. Rob., *Oroxylum indicum* (L.) Benth. ex Kurz. and *Paederia foetida* L. were used for the same purpose by all 4 communities showing the pan-community nature of knowledge on these plants. Often, sharing of knowledge occurs among the communities that live closely and socialize with much more ease than communities that are isolated. Here, 11 plants were used for the same purpose by the *Kondh*, *Poraja* and *Gadaba* communities where as the *Hill Bonda*, who live far away from these communities do not share this knowledge. The commonality of knowledge can also be the result of knowledge introduction from outside. *Litsea glutinosa* (Lour.) C.B. Rob., for example is used for the same purpose by the same name by all the 4 communities and also in the other parts of Eastern Ghats, including non-tribal communities¹⁵. The use of *Litsea glutinosa* (Lour.) C.B. Rob. and its local name could have been possibly introduced by the local traders, who purchase the tree bark for the medicinal plant raw drug market. This can be understood from the fact that *Litsea glutinosa* (Lour.) C.B. Rob. is identified by the four communities as well as in the local markets by a common name.

The relationship between language and knowledge on biodiversity has been well documented. Language is the medium, where knowledge is stored, retrieved and transmitted. When a language is endangered, there is a high possibility of losing the associated knowledge system too^{16,17}. Local names often indicate the patterns of knowledge flow. The *Poraja* recognise *Breynia retusa* (Dennst.) Alston through a local *Oriya* name. Similarly, The *Hill Bonda* also recognise *Bombax ceiba* L., *Mucuna pruriens* (L.) DC. and *Schleichera oleosa* (Lour.) Oken only by a local *Oriya* name. In both the cases, the plants were not used by the communities, which suggest that the name alone and not the knowledge associated have diffused into these communities. *Pogostemon stellatus* (Lour.) Kuntze was used by all four communities yet the *Kondh* alone had a name for it. The *Kondh*, who had a *Kuvi* name for the plant use it for medicinal (febrifuge), cultural and spiritual healing purpose while the other communities use the plant only as a febrifuge. This suggests that the use of the plant as a febrifuge could have diffused from the *Kondh* to the other communities. Interestingly, the *Bonda* who don't live close to the *Kondh*, use the plant for a totally different purpose, i.e. as mosquito repellent. Of the 20 plants listed, the *Hill Bonda* had identified 7 plants by their mainstream *Oriya* name; *Poraja* had identified 14 plants by their *Oriya* name and *Gadaba* 13 plants. The *Kondh* had identified only 3 plants by their local *Oriya* name.

The *Kondh* unlike the *Hill Bonda*, lived in proximity to the other tribal and non-tribal communities yet have maintained a distinct identity, which they owe to their community-consciousness that forms the basis for conserving the language and the knowledge held in the language without much erosion. That explains the reasons for least number of *Oriya* names used by *Kondh* to identify plants. The *Gadaba* and *Poraja* whereas are fast losing their language and rapidly assimilating mainstream non-tribal culture while the *Hill Bonda* have geographically and culturally remained isolated from the rest of the communities. The relationship between plant names, language and community knowledge provides strong evidence that the geographical and cultural isolation helps in the conservation of language and knowledge.

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