

Plants species used for making traditional musical instruments in Khasi-Jaintia Hills, Meghalaya, India.

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ABSTRACT

There are three main tribes in the state of Meghalaya - Khasi, Jaintia and Garo. The Khasis form the dominant part of the population, about 56.4% of the total tribal population is Khasi. Khasis have a rich and distinct culture and religion of their own. Music with wooden musical instruments accompanies everything in khasi life. Plants are essential to music. Many tree species and bamboos are important for making stringed, wind instruments and khasi wooden drums or "Ksing". Wood material properties can impact the sound of musical instruments. Documentation of these plant species is important for future references. Altogether plant species belonging to 40 genera and 22 families were encountered during the study period.

Keywords: Musical instruments, tone woods, khasi, Meghalaya.

INTRODUCTION

The northeast Indian state of Meghalaya (25°47'-26°10' N latitude and 89°45'-92°47' E longitude) is predominately a tribal state, 86.1% of the total population of the state is tribal (Census of India, 2011). There are three main tribes in the state- Khasi, Jaintia and Garo. The Khasis form the dominant part of the population, about 56.4% of the total tribal population is Khasi (Census of India, 2001). They have their own religion known as "Ka Niam Khasi", Ceremonies and festivals. Music accompanies everything in khasi life –every Seasonal festivals like *Shad Sukmysiium (Weiking dance)*, *Ka Pomblang Nongkrem (Nongkrem dance)*, *Ka Behdiengkhlam* and ceremonies like Naming, marriage and death are enriched with music and dance. Musical instruments have always played an important role in identifying the culture of the particular ethnic group. They are the concrete symbols of the society's philosophy and tradition (Syiem 2005). Khasi traditional wooden musical instruments includes Membranophones like drums known as "Nakra" or "Ka Bom" (Big Drum) "Ksing Padiah," "Ksing Shynrang", "Ksing Kynthei"(small drums) which are used in different ceremonies and festivals. "Ka Besli" and a variety of other wind instruments like "Sharati", "Shyngwiang", and "tanglod" are used for different occasions, sad or joyous. Stringed instruments like "Duitara", "sitar", "marynthing" and *Dymphong*- a reeds of Bamboos instrument are also important khasi musical instruments. These wooden instruments not only provide the beat for the festivals, they are also used to 'invite' people to the event.

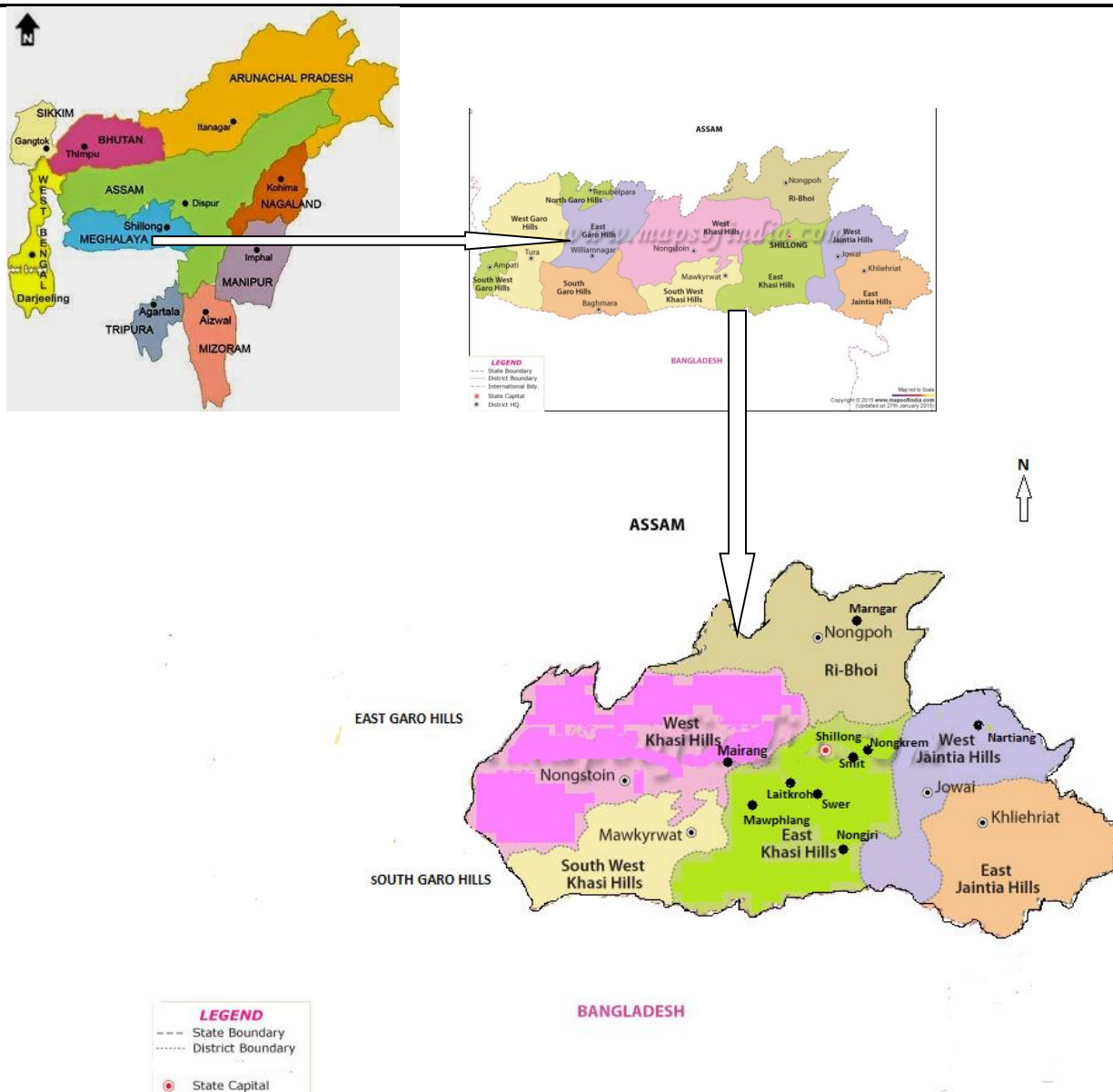
Plants are essential to music. Trees for making Musical instruments or tone-woods provide some of the most valuable timber in the forest products industry (O'Connell 2004). An instrument maker consider wood material, construction techniques and decoration creating a balance that is both functional and aesthetically pleasing (Rault 2000). Wood material properties can impact, primarily, the acoustic response, but also mechanical resistance, physical stability, visual aesthetics, tactile properties, or a combination of these. Worldwide, several hundred wood species are available for making wind, string, or percussion instruments. (Wegst, 2006)

Few plant species used for making khasi traditional musical instruments was reported by some workers (Ahmed & Borthakur, 2005; Hynniewta. 2010.). The present survey aimed at studying and identifying different plant species used for making khasi musical instruments in addition to the one reported by these workers.

MATERIALS AND METHODS

The study was conducted in the year 2014-2016 in different villages of Khasi-Jaintia Hills, Meghalaya state, India. Khasi-jaintia Hills with a total area of 15,947 km² lies between 25°07"-25°41" N and 91°21"-92°09" E .There are six districts East khasi hills, Ribhoi, West Khasi Hills, South West Khasi Hills, Jaintia Hills and East Jaintia Hills.

Field survey and interviews was conducted with khasi traditional musical instruments makers, priest, organisers of the festivals and "*Duhalias*" (khasi traditional musicians) regarding the uses of khasi traditional musical instruments. Small factories of instruments makers making musical instruments were personally visited. The list of khasi traditional musical instruments and the plant species for making these instruments were recorded. Photographs were also taken. Khasi vernacular names given by them were recorded. Instrument makers help us to identify the plant species in the forest. The plant specimens were collected and their herbariums were prepared and taken to Botanical Survey of India Shillong, for authentic identification of the plant species. The characteristics of the wood like the grains types, durability, hard or soft, sound production etc was also recorded. Different khasi festivals and ceremonies were attended.



Map showing study sites

RESULTS AND DISCUSSION

Drums or “Ksing”

A wooden khasi drum or “Ksing” is a musical instrument which produces sound by the vibration of a stretched membrane. The membrane, which is known as the head, covers one or both ends of a hollow body known as the drum shell. For making a drum shell woods of *Cinnamomum cecicodaphne* Meissn (Lauraceae), *Artocarpus integra* Thunb syn *Artocarpus integrifolia* Linn (Moraceae).and *Gmelina arborea* L. (Verbenaceae) are commonly used. These three tree species are best for making wood shell because the growth of the wood was extremely straight (not twisted or gnarled) with good density and even pattern of grain and resonates well. These species should be around 50 years old for the best sound to be produced. Other tree species used are *Meliosma wallichii* Planch (sabaceae) *Prunus undulata* Ham(Rosaceae), *Erythrina arborescence* Roxb. (Leguminaceae), *Schima khasiana* Dyer (Ternstroemiaceae), *Albizzia*

odoratissima(Leguminosae), *Pinus khasiana* (pinaceae) *Cryptomeria japonica*(Cupressaceae) *Engelhardtia spicata* (Juglandaceae) *Citrus medica*, *Citrus latipes* (Rutaceae), *Gmelina arborea* L. (Verbenaceae) etc. The threads for tying the cow's skin to the drum known as "**ki bhet**". They are made of cow's skin by cutting into small strap. Small stick inserted inside the *bhet* for tuning the drum are known as "**Ki Dieng patha**" or "**dieng syngkhong**". These are made of the branches of the trees from which the drums are made. "**U Syrwiang**" is the cane made of *Calamus collinus* Roxb(Ericaceae) being woven around, for supporting the drum to stand. **Ki lyngknot**, the triangular wooden seat for the drum. These are made of the branches of the trees from which the drums are made. Straps to carry the drum in place while marching in a band is generally made of cane *Calamus collinus* Roxb (Ericaceae). The trees for beating the drum should be hard and smooth. These are made from *Symplocus pyrifolia* Wall. (Symplocaceae) *Camelia caduca* C.B.Clarke (Ternstroemiaceae) *Prunus undulate* Ham.(Rosaceae) *Pinus khasiana* (Pinaceae) *Erythrina arborescens* Rox.(Fabaceae) *Quercus dealbata* HK.f &Th.Msc(Fagaceae)and *Rhododendron arboretum* (Ericaceae).

Khasi traditional String instruments

Ka **Duitara** is a four stringed khasi traditional instrument. The strings are of muga or in khasi are called *saimuka*. **Ka Duitara** is a folk instrument and is generally used as accompaniment for ballads, soft songs, love songs and others. The instrument is the same as Tokari of Assam (Borthakur, 2003). **Ka Maryngod** is a prototype of the **Duitara** with three steel strings played by a bow rubbing the strings. **Ka Marynthing** is a kind of large guitar made of gourd of *Lagenaria siceraria* (Monila) Standl with one string instrument crafted with wood and played with the fingers. **Sitar or Saitar** is crafted with wood and it has four steel strings. It is 3-4ft musical instrument having 8-15 frets. The tree species for making these instruments are *Cinnamomum cecicodaphne*. Meissn(Lauraceae), *Rhus succedanea* L. *Prunus undulata* Ham, *Erythrina arborescence* Roxb, *Meliosma wallichii* Planch, *Albizia odoratissima* Benth, *Symplocus pyrifolia* Wall, *Camelia caduca* C.B.Clarke, *Pyrus sinensis* Linn., *Artocarpus integra* Thunb syn *Artocarpus integrifolia* Linn etc. The wood of these trees are light, resonant, strong, stiff, sturdy with straight fine uniform grain and no knots suitable to built these string instruments. The portion of wood at the bottom of the string instruments beyond the bridge has a nice grain as this is the area that is vibrating and producing the sound. *Rhus succedanea* L. is best for making **Duitara** even though the latex from the stem is allergic to some people.

Khasi traditional Wind instruments

Ka *Besli* is a khasi flute made of *Bambusa pallida* Munro, *Schizostachyum munroi* Kumar and Singh and *Dendrocalamus hamiltonii* Nees & Arn.ex Munro. The natural, hollow culm of this giant grass makes it perfect for making woodwind instruments. Ka *Besli* contains seven holes; one hole for lip and six holes for fingers. It is used as

accompaniment for khasi folk music and it can also produce solo music piece or accompanied by other musical instruments. It is also popular among local cowherds.

Ka tanglod is another khasi end-blowing traditional wind instrument containing seven holes used by the local cowherds. It is made of the culm of *Bambusa pallida* Munro. Or *Cephalostachyum latifolium* Mxiro. “*Ka shawiang*” is another wind instrument which is played for solemn occasions during death and religious ceremonies. It is made of *Bambusa pallida* Munro. “*Ka mieng*” is a mouth instrument popular among khasi children and women made of a culm of *Bambusa pallida* Munro and silky thread. *Ka sharati* it is another wind instrument used for sad occasions made of a culm of *Bambusa pallida* Munro.

Wood and Reed instruments

The *Tangmuri* is a double-reed or wood conical-bore wind-instrument used by the Khasi- Jaintia people of Meghalaya State in North-East India. The mouthpiece of this instrument which comes directly to the lips is known as “*thylliej*” is made of reed *Phragmites karka* (Retz) Trin.ex Steud. The reeds are put on top of a metal “*u kdor*” made of copper and the lower end of the tube connects into the wooden “*Ktang*” or “*Kti*”, a wooden or bamboo cylindrical tube chanter with seven finger-holes on the front. “*Ktang*” or “*Kti*”, is made of *Bambusa pallida* Munro, *Viburnum foetidum* Wall or *Rhododendron arboretum* Sm. *Ktang* is then connected to a bell-shaped piece of wood with three holes, known as *ka khieh* or *ka rhang* literally means an opening at the bottom end. It is made of *Bambusa pallida* Munro, *Prunus domestica* L. and *Meliosma wallichii* Planch. The smaller woodwinds play higher pitches while the longer and larger instruments play the lower notes.

Discussion

In the present investigation different species used for making khasi traditional musical instruments were recorded. The study records the occurrence of 25 families and 41 genera. This includes 1 species of herbs, 7 shrubs, 31 trees and 2 climbers. The table below (Table 1) provides the species used for making khasi traditional musical instruments with their scientific names alphabetical order along with habit.

Acknowledgement

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Scientific names	Khasi vernacular name(k.ven)	Family	Parts used	Habit
<i>Albizzia odoratissima</i> Benth	Dieng kreit	Leguminosae	trunk	Tree
<i>Artocarpus integra</i> Thunb syn <i>Artocarpus integrifolia</i> Linn.	Dieng Sohphan	Moraceae	trunk	Tree
<i>Bambusa pallida</i> Munro	Shken	Poaceae	Culm	Shrub
<i>Bambusa tulda</i> Roxb.	Skong	poaceae	Culm	Shrub
<i>Calamus collinus</i> Roxb.	Riphin	Arecaceae	Stem	Climber
<i>Camelia caduca</i> C.B.Clarke	Dieng tyrnem	Ternstroemiaceae	branch	Tree
<i>Cedrela toona</i> Roxb. ex Rottler	Dieng Puma	Meliaceae	Stem	Tree
<i>Cinnamomum cecicodaphne</i> Meissn	Dieng Pingwait	Lauraceae	Trunk	Tree
<i>Citrus latipes</i>	dieng sohjew	Rutaceae	trunk	Tree
<i>Citrus medica</i> ,	dieng sohjew	Rutaceae	trunk	Tree
<i>Cryptomeria japonica</i> (syn. <i>Cupressus japonica</i> L.f.)	Dieng sehbilat	Cupressaceae	trunk	Tree
<i>Dendrocalamus hamiltonii</i> Nees & Arn.ex Munro.	Siej lieh	Poaceae		Shrub
<i>Docynia indica</i> (wall)Decne	Dieng sohphoh khasi	Rosaceae	trunk	Tree
<i>Duabanga grandiflora</i> (Roxb.ex DC)	Dieng bai	Sonneratiaceae	trunk	Tree
<i>Engelhardtia spicata</i> Bl	Dieng lyba	Juglandaceae	trunk	Tree
<i>Erythrina arborescence</i> Roxb.	Dieng song	Leguminasae	trunk	Tree
<i>Gaultheria fragrantissima</i> Wall.	Dieng lathynraid	Ericaceae	trunk	Shrub
<i>Gmelina arborea</i> L.	Dieng laphiang	Verbenaceae	Trunk	Tree
<i>Lagenaria siceraria</i> (Monila)Standl	Klong	Cucurbitaceae	fruit	Climber
<i>Litsea elongate</i> Wall	Dieng jalyngngap	Lauraceae	Trunk	Tree
<i>Melocanna baccifera</i> (Roxb)Kurz	Sylli	Poaceae	Culm	Shrub
<i>Meliosma wallichii</i> Planch	Dieng shngit	sabaceae	trunk	Tree
<i>Michelia punduana</i> Hf.f.&Th.	Dieng rai	Magnoliaceae	trunk	Tree
<i>Morus australis</i> Poir.Syn <i>M.indica</i> auct.nonL.	Dieng sohlangdkhur	Moraceae	trunk	Tree
<i>Photina integrifolia</i> Lindl.in Trans	Dieng sohlormaw	Rosaceae	trunk	Tree
<i>Phragmites karka</i> (Retz)Trin.ex Steud	Japung	Poaceae	Culm	Shrub
<i>Pinus kesiya</i> Royle ex Gordon	Dieng kseh	pinaceae	trunk	Tree
<i>Prunus domestica</i> L.	Soh plom	Rosaceae	trunk	Tree
<i>Prunus undulata</i> Ham.	Dieng tyrkhum	Rosaceae	trunk	Tree
<i>Pyrus sinensis</i> Linn.	Dieng Sohphoh nongkhlaw	Rosaceae	Trunk	Tree

<i>Quercus dealbata</i> HK.f &Th.Msc	Dieng Sai	Fagaceae)	branch	Tree
<i>Rhododendron arboretum</i> Sm.	Dieng Tiewasaw	Ericaceae	branch	Tree
<i>Rhus succedanea</i> L.	Dieng kain	Anacardiaceae	trunk	Tree
<i>Schima khasiana</i> Dyer	Dieng ngan	Ternstroemiaceae	trunk	Tree
<i>Schizostachyum munroi</i> Kumar and Singh	U sylli	Poaceae	Culm	Shrub
<i>Symplocos pyrifolia</i> Wall.	Dieng jamayang	Symplocaceae	branch	Tree
<i>Themeda vUlosa</i> (Poir.) A. Camus	U sder	Poaceae		Herb
<i>Toona ciliate</i> Roem Syn <i>Cedrela toona</i> Roxb.ex Rottl	Dieng bti	Meliaceae	trunk	Tree
<i>Trema orientalis</i> (L)Bl.	Dieng Lynta/lyngkta	Ulmaceae	trunk	Tree
<i>Vernonia arborea</i> Buch-Ham.in trans.Linn.	Dieng lakhiat	Asteraceae	stem	Tree
<i>Wightia gigantea</i> Wall.	Dieng slang	Scrophulariaceae	trunk	Tree

Table -1plants which are used for making khasi traditional music.



A



B



C



D



E



F



G



H



I

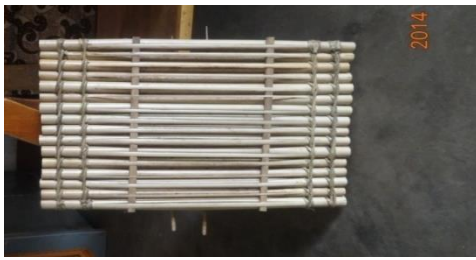
Some Plant Species used for making khasi traditional musical instruments.

(A) *Artocarpus integra* Thunb syn *Artocarpus integrifolia* Linn.

(B) *Wightia gigantea* Wall.(C) *Duabanga grandiflora* (Roxb.ex DC)

(D) *Viburnum foetidum* Wall(Caprifoliaceae) (E) *Vernonia rborea* Buch-Ham.in trans.Linn.

(F) *Cinnamomum cecicodaphne* Meissn (G) *Bambusa pallida* Munro (H) *Phragmites karka* (Retz)Trin.ex.Steud. (I). *Melocanna baccifera* (Roxb)Kurz



A



B



C



D



E



F



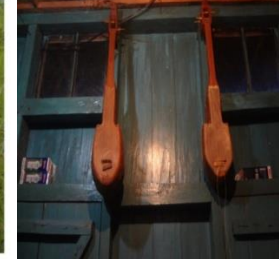
G



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Figs:khasi traditional instruments A. *Ka Dymphong* B. *Tanglod* C.*Ka Besli* D. *Tangmuri* E.*Mieng*
F.*Muri siej*. G *Singphong*.H.*Maringod* I.*Marynthng* J.*Duitara*



A

B

C



D

E

F



G

H

I



dieng tem or drum beater stick for small drum

drum beater stick for big drum

J

K

FIGS: KHASI TRADITIONAL DRUMS.