COLLECTION, IDENTIFICATION AND CHARACTERIZATION OF INDIGENOUS FRUITS IN BENGUET AND MOUNTAIN PROVINCE

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ABSTRACT

Survey and collection of indigenous fruits that are abundantly found in twelve municipalities of Benguet and four municipalities in Mountain Province were conducted from July 2008 to June 2009. These fruits were found abundant in the study sites and are eaten by the people. Parameters considered were habit, phenology and morphological characteristics such as plant height, stem, leaf, flower and fruit characteristics.

The method of propagation and their ethno botanical uses were likewise included. Degway (*Suararia sp*) is the tallest indigenous fruit tree while Gumbayas (*Physalis peruviana*) is the shortest. Kamias (*Averrhoa balimbi)* has the biggest stem diameter while Masaprula (*Passiflora edulis*) has the thinnest stems; and six have sap on their stems/trunks. All have odorless green leaves; while eight plants have hairs on their leaves. Eleven have small flowers that are fragrant at full bloom. All have medium sized fruits with sweet aroma and taste. Mabolo (*Diospyrus edulis*) and Masaprula (*Passiflora edulis*) were the biggest fruits;while the smallest was the fruits of Ayosip (*Vaccinum corymbosum*) and Bugnay (*Antidesma bunius)*. Flowering is usually during the summer months. Propagation is done by seeds, or by stem cuttings, marcotting and layering. The fruits are collected for fresh consumption or processed into jams/jellies or wine/juice. Some have medicinal uses and are used as firewood, for making handicraft and as used as ornamental plants.

Keywords: Indigenous, exotic, staple food, thickets

INTRODUCTION

For centuries, rural communities have managed to survive from hunger by using available local resources. Observations show that people in Benguet and in Mountain Province augment their food needs with the indigenous vegetables and fruits which are either growing in the wild, or cultivated in their backyards. The latter can also provide additional income when grown in bulk.

Not all of the cultivated fruit crops however, maybe available to the people of Benguet and Mountain Province due to the following factors namely: distance of the community to fruit producing areas, existing topography of the land especially in the far-flung areas, lack of readily available public transport system in the rural areas, lack of farm to market roads, and local communities cannot afford to buy the increasing prices of fruits from the market.

Although the indigenous fruits can be cultivated to be assured of continuous supply; the technologies involved in cultivating nut or fruit trees, for example, is considerably complex and time consuming; as a result, some of these edibles are gathered from the wild.

There are numerous indigenous fruits in Benguet and in Mountain Province such as the Blueberry which is locally known as ‘ayosip’ and wild strawberry as ‘pinit’. Others have distinct local names such as ‘Degway’ and ‘bugnay’, which makes the identification of these indigenous fruits quite difficult.

Hence, this study was conceived to properly identify, characterize and document indigenous fruit plants that abound in Benguet and in Mountain Province.

MATERIALS AND METHODS

Sites of Collection

The study area. Twelve municipalities of Benguet namely Atok, Bakun, Bokod, Buguias, Itogon, Tublay, Tuba, Kabayan, Kapangan, Mankayan, La Trinidad, and Kibungan and four municipalities of Mountain Province namely Bauko, Bontoc, Sagada, and Besao served as the collection sites (Figures 1 and 2).

Data Gathered

The collected indigenous fruits and plants were described and identified following the parameters:

A. Botanical Classification
   - Local/Common name
   - Scientific name
   - Family

Plant Characteristics
- Plant height (cm), measured from the base to the tip of the plant.
- Leaf characteristics. Size, shape, color, odor, presence/absence of hairs.
- Flowering season
- Flower color, type, size, odor/ fragrance
- Plant growth habit e.g. herb, shrub and tree
- Trunk/stem characteristics. Stem / trunk diameter at flowering or fruiting, with or without sap.
- Fruit color, odor, taste, size

Habit/Location

Economic importance

5. Documentation of the collected fruits in pictures
6. Mapping of the collection sites

RESULTS AND DISCUSSION

Location of Identified Indigenous Fruit in Benguet

Among the twelve municipalities of Benguet, Buguias, Atok, Mankayan and Kibungan had the highest number of identified indigenous fruits with 12 fruits each (Table 1), which may be due to the existing vegetation these places that provided environmental conditions favorable for the growth of the indigenous fruits.

The municipalities of Tuba and Bakun followed with 11 fruits each identified. The municipality of Bokod had nine fruits while La Trinidad had only seven fruits identified.

This may be due to the prevalence of residential houses and industrial buildings in the are. Indigenous fruits grow well or thrive on forested areas/ mountainous areas and are very abundant in thickets and partially-shaded areas, but can also thrive on well-drained soil.

Fruits found growing on forested areas that are partially-shaded were found to have good quality fruits with robust and dark green leaves.

Location of Identified Indigenous fruit in Mt. Province

Among the 13 identified fruits, 9 of them were found abundantly growing in the municipality of Besao, while 8 were found growing on some parts of the municipalities of Bauko, Sagada, and Bontoc (Table 2).

Indigenous Fruits Collected

Table 3 shows the botanical description, habitat and economic importance of the different indigenous fruits identified in the different sites in Benguet and Mountain Province. There were 18 fruits identified.

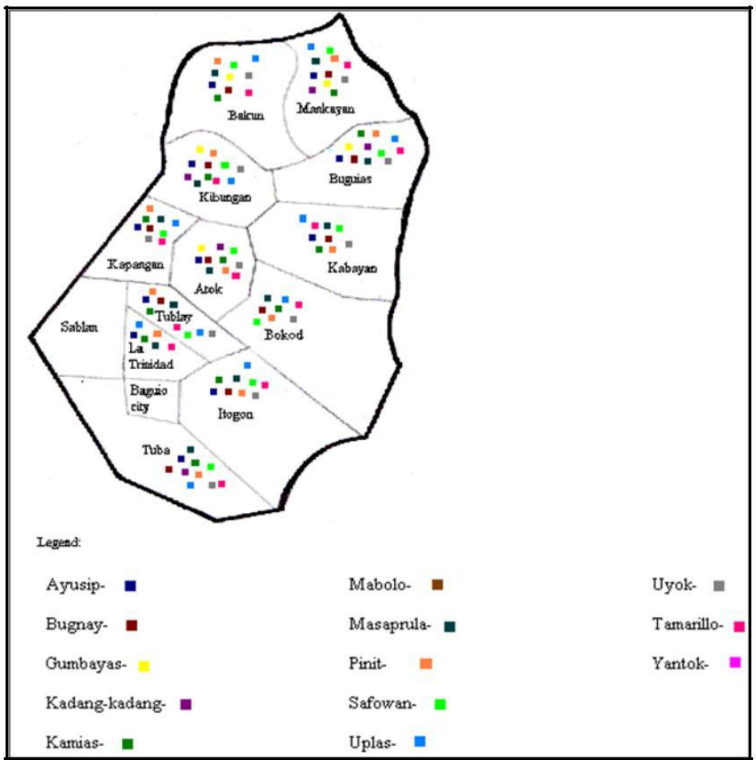


Figure 1. Collection sites in Benguet

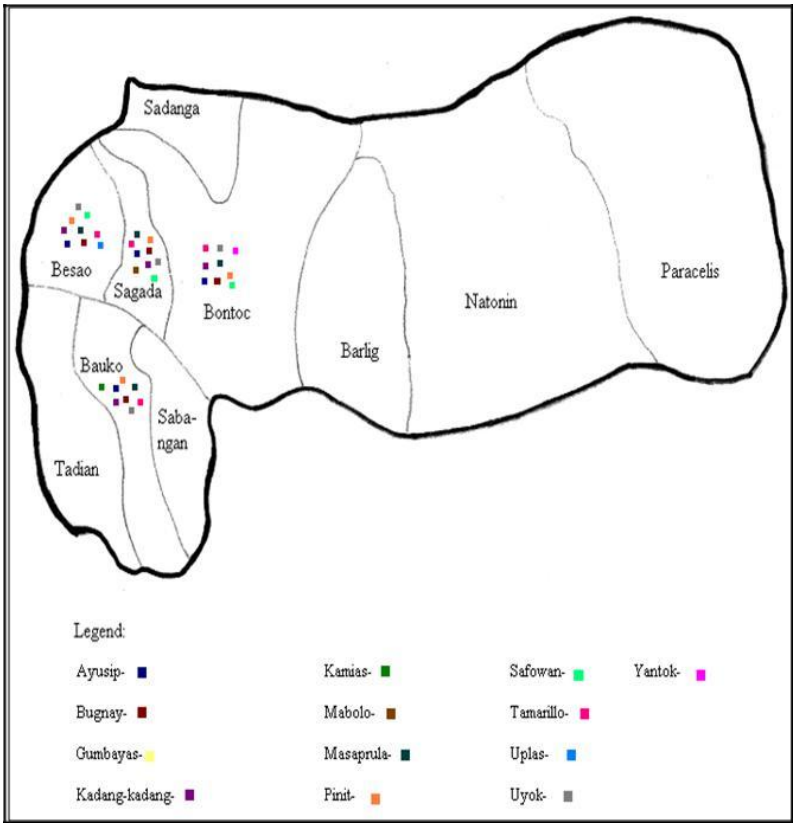


Figure 2. Collection sites in Mountain Province

Table 1. Location of identified fruits in Benguet

Fruit Name	Atok	Bakun	Bokod	Buguias	Itogon	Kabayan	Kapangan	Kibungan	Mankayan	La Trinidad	Tuba	Tublay
Ayusip; Alumani *Vaccinum corymbossum*	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bugnay *Antidesma bunius*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Gumbayas, Gubbais *Physalis peruviana*	✓	✓	✗	✓	✗	✗	✗	✓	✓	✗	✗	✗
Kadang-kadang; Bang-bang *Medinilla magnifica*	✓	✗	✗	✓	✗	✗	✗	✓	✓	✗	✓	✗
Kamias *Averrhoa balimbi*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Mabolo *Diospyrus blancoi*	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Masaprula *Passiflora edulis*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pinit *Rubus niveus*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Rubus rosafoleus	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Safowan; Degway *Suararia sparsiflora*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Tamarillo *Cyphomandra betacezae*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Uplas *Ficus umlifolia*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Uyok *Sauruaia elegans*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✗	✓	✓
Yantok; Litoko *Calamus nillensis*	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗

Table 2. Location of Indigenous Fruits in Mountain Province

	MUNICIPALITY PLACES/MUNICIPALITIES			
Fruit Name	Sagada	Bauko	Besao	Bontoc
Ayusip;Alumani *Vaccinumcorym bossum*	/	/	/	/
Bugnay *Antidesma bunius*	/	/	/	/
Gumbayas, Gubbais *Physalis peruviana*	X	X	X	X
Kadang-kadang; Bang-bang *Medinilla magnifica*	/	/	/	/
Kamias *Averrhoa balimbi*	/	X	X	X
Mabolo *Diospyrus blancoi*	X	X	X	X
Masaprula *Passiflora edulis*	/	/	/	/
Pinit *Rubus niveus*	/	/	/	/
Rubus rosafoleus	/	/	/	/
Safowan; Degway *Suararia sparsiflora*	X	/	/	/
Tamarillo *Cyphomandra betaceae*	/	/	/	/
Uplas *Ficus umlifolia*	X	/	X	X
Uyok *Sauruaia elegans*	/	/	/	/
Yantok; Litoko *Calamus nillensis*	X	X	X	X

30. -
Present X –
Absent

Table 3. Fruits identified

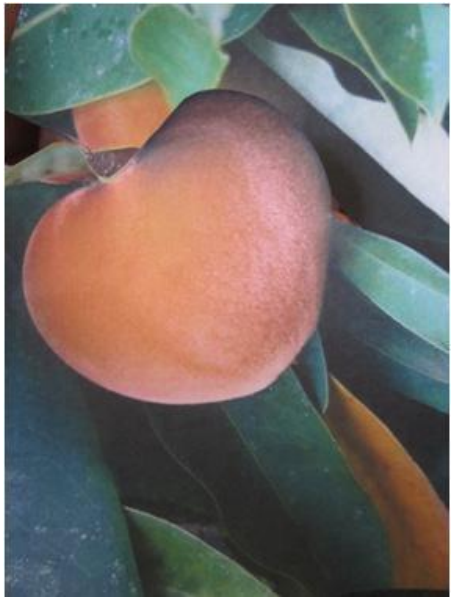
Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Ericaceae	*Vaccinum corymbosom*	Ayosip; alumani	 	Blueberry locally called as Ayosip or Alumani is a shrub attaining a height of 130 cm. It's leaves are 1-8 cm long and 0.5-3.5 broad; they are green in color and are ovate to lanceolate. The flowers are borne cluster and bell-shaped, white, pale pinkish or red. The fruit is a false berry having a diameter of 5-16 mm with a flared crown at the end. Pale greenish at first, then reddish-purple, and finally indigo upon ripening and when mature have sweet taste, with viable acidity. Habitat Commonly found freely growing on mountain places of Benguet and in Mountain Province. Can thrive on well-drained soil with direct sunlight and a temperature ranging from 18-25 $_0$C. Economic importance Blueberries are eaten fresh or processed as individually quick frozen fruit, juice or dried or infused berries which in turn may be used in a variety of consumer goods such as jellies, jams, pies, muffins, snack food and cereals. They are also used as traditional medicines for some ailments including headache, fever, eye problems including retinal hemorrhaging and diarrhea. The fruit is also rich in Vitamin C and Vitamin K.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Phyllanthaceae	*Antidesma bonius*	Bugnay; Bignay		Commonly called Bugnay by the Ilocanos, Kalingas and Kankana-ey; while the Kiangans of Ifugao call it Bugney. Bignay attains a height from 150 cm. It is an open branched tree, more or less pubescent or nearly glabrous. Leaves broadly elliptic to elliptic-oblong, 3-8 cm long; the apex broad, usually rounded and the base sub-cordate. Spikes pubescent and panicle, 4-10 cm long. The flowers which usually bloom in March-May are white, small and sessile. The fruit are subglobose, olivaceous with sour taste, 4-5 mm in diameter and are smooth. Habitat It grows in most places in Benguet and in Mountain Province. They are commonly found in thickets, open slopes as well as in and around settlements all over the Philippines. Economic Importance The fruits are eaten raw when ripe and are used for seasoning fish or meat. The fruits can be processed into vinegar, wine and jelly. The leaves are also used for medicinal purposes.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Solanaceae	*Physalis peruviana*	Gumbayas; Gubbais	 	Herbaceous or soft-wooded perennial plant that usually reaches 40 cm in height but occasionally may attain 182.88 cm It has ribbed, often purplish, spreading branches and nearly opposite, velvety, heart-shaped, pointed, randomly toothed leaves which measures 6-15 cm long and 4-10 cm wide, and in the leaf axils, bell shaped, nodding flowers to 2 cm wide, yellow with 5 dark purple brown spots in the throat, and cupped by a purplish-green, hairy, 5 pointed calyx. After the flower falls, the calyx expands, ultimately forming a straw-colored husk much larger than the fruit it encloses. The berry is globose, 1.25-2 cm wide, with smooth, glossy, orange-yellow skin and juicy pulp containing numerous very small yellowish seeds. When fully ripe, the fruit is sweet but with a pleasing grape-like tang. The husk is bitter and edible. Habitat Present in Atok, Bakun, Buguias and Kibungan. Grows in any well-drained soil but does best on sandy to gravelly loam. On highly fertile alluvial soil, there is much vegetative growth and the fruits fail to color properly. The plant grows on sloping or rolling areas having a temperature ranging from 16-25 oC. Economic Importance The Cape gooseberry are being canned whole and preserved as jam. Also made into sauce, used in pies, puddings, chutneys, and ice cream., It can be eaten fresh in fruit salads and fruit cocktails. The fruit is rich in Vitamin A.

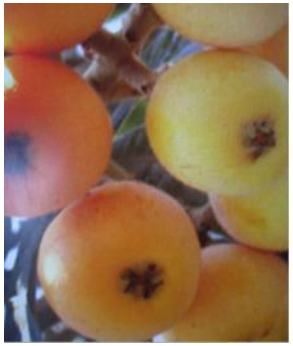
Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Melastomataceae	Medinillia multiflora	Kadang-dang; Bang-bang		Bang-bang or kadang-dang as commonly called in Benguet and Mt. Province is an evergreen shrub or liana which can reach a height of 1.8 m or 180 cm. The leaves are opposite or whorled, elongated and can grow to about 30 cm. The matured leaves are coloured green and the young leaves are red. The flower is bell-shaped and pinkish and 2.3 cm in diameter and are produced in large panicles. The fruit is pink at first, then red and finally purple when ripe. The taste of the fruit is sweet when ripe. Habitat This is present in Atok, Buguias, Kibungan, Mankayan and Tuba. The plant is usually found on mountains and thrives in rich, moist, well-drained, humus-rich soil in partial shade. TEconomic Importance The fruit are eaten fresh.
Arecaceae	*Calamus manillensis*	Yantok; Litoko		An exotic fruit which comes from a vine locally called “Yantok” which is one among the variety of rattan. It is one among the sourest fruit in the world. These fruit are available in the market from August to October. Habitat These fruit are found in the jungle forest. Economic Importance Fruit is edible.

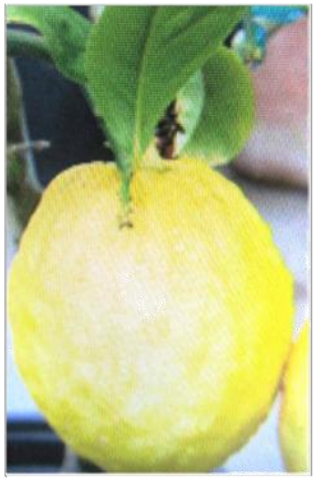
Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Oxalidaceae	*Averrhoa balimbi*	Kamias		A small tree, growing from 1,200 cm in height. Leaves are pinnate and 20-60 cm long, with hairy rachis and leaflets. The leaflets are opposite, 10 to 17 pairs, oblong and 5- 10 cm in length. The panicles growing from the trunk and larger branches are hairy and 15 cm long or less. Flowers are about 1.5 cm long, and are somewhat fragrant. The calyx is hairy and the corolla is purple often marked with white. The fruit is sub-cylindrical, obscure, broad, rounded, longitudinal lobes, green, acid, edible, and about 4 cm long. Habitat Thrives best in full sun and also in rich, moist, but well-drained soil; it grows and fruits quite well on sand or limestone. Economic Importance Aside from being eaten raw, the fruit is also used to remove stains from clothing and also for washing hands. It is much used as seasoning and is made into sweets, including jam, and is used in making pickles. It was reported that the leaves are also used as a paste applied hot to itches; and internally, fresh or fermented, for syphilis; or in the form of infusion, as a protective medicine after childbirth.
Dilleniaceae	*Suarauia sparsiflora*	Safowan; Degway; Legwey		Medium sized tree reaching a maximum height of about 6 m. The leaves are colored green and are elongated. It is prolific and fruits heavily over a long period of time, say four months or more starting from the month of July. The fruit is green with sour taste and looks like a "caramay". They are usually found on branches. Habitat They are commonly found on mountains, partially shaded areas. Economic Importance Mainly eaten as fresh fruit and can be processed into candies and jam. Also used as decoction. The branches and trunk can be used as firewood.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Ebenaceae	*Diospyros blancoi*	Mabolo		A tropical tree that varies in form from a small tangy tree with drooping branches, to erect, straight tree, with stout, black, furrowed trunk to 80 cm thick. It is rather slow- growing. The evergreen, alternate leaves, oblong, pointed at apex, rounded or pointed at the base, are 15-22 cm long, 2 to 3 ½ in wide; leathery, dark-green, smooth and glossy on the upper surface, silvery- hairy underneath. New leaves are showy, pale-green or pink and silky- hairy. The tubular, 4- lobed, waxy, faintly fragrant blooms are short- stalked, creamy- white, downy. Fruits are fleshy, globose, up to 8- 10 cm in diameter, densely covered with short brown hairs. The pulp is edible. The fruit hairs have rubbed off before eating as it cause peri-oral itching and irritation. Habitat Indigenous to low and medium altitude forest from sea level to 2,400 feet above sea level. It needs a good distribution of rainfall through the year. Economic Importance Fruit are eaten fresh and can be sliced and seasoned with lime or lemon juice. It is added to other fruits in salads. Cut into strips and fried, it is crisp and fairly agreeable as a vegetable of taro type appropriate for serving with ham, sausage or other spicy meat.
Dilleniaceae	*Sauruaia elegans*	Uyok		Uyok as commonly called by some people in Benguet and Mountain Province. It can attain a height of 20 m. Its leaves are green, acuminate and hairy and have a dark grey edible fruit. Their small fruit contains tiny seeds with jellylike that makes them sweet. Habitat Grows in partially shaded areas and can be found in some places in Benguet and Mountain Province. Economic Importance Fruit can be eaten fresh and some processes its fruit into jam or jellies.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Passiflo-raceae	*Passiflora edulis*	Masaprula; Masap		A vigorous climber (vine) with smooth, deeply lobed, toothed leaves and spilling climbing tendrils. Flowers have numerous stamens and characteristic curved styles. Fruits are egg shaped berry with a tough skin (purple or yellow, and somewhat wrinkled at maturity containing numerous seed with fleshy, sweet or sour arils. Habitat They are found in all places in Benguet. Economic importance Fruits are mainly eaten fresh or the fruit pulp is used in drinks, yogurts and desserts. The fruit pulp is also processed and combined with sauces, jams, candies, ice cream, sorbet, cake icing, jellies and cocktails. Purple fruit are preferred for eating.
Rosaceae	*Rubus fraxinifolius; Rubus ellipticus*	Pinit; Boyot		A scrambling, spiny shrub growing in thickets of limestone formation; it has 5-9 leaflets with toothed margins. The flowers are white. The fruits occur in terminal clusters and with a good flavor. The fruits are orange or red when ripe. Habitat Wild strawberries are very abundant in thickets at more than 1000 m elevation. The fruits occur only in Benguet and in Mountain Province. Economic Importance Eaten raw or used in making juice, jam, syrup and wine. Leaves are used as blended herbal teas. Leaves and roots are believed to have medicinal benefits in terms of easing diarrhea, digestive upsets and gout. The fruit is evidently used externally to counteract sunburn, skin blemishes and discolored teeth

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Solanaceae	*Cyphomandra betaceae*	Dulce; Tamadillo		Tamarillo is a small tree, growing 300 cm in height, with a single trunk that is monopodial and branched at a height of 1 to 1.5 m into two or three branches. The leaves are cordiform, 17 to 30 cm long, 12-19 wide, subcarnose and lightly pubescent on the underside. There are caulinar inflorescences opposite the leaf. The flowers are 1.4 cm long, the calyx persists on the fruit, the corolla is pinkish white and rotate-campanulate with reflexed apices, connivent stamens that are shorter than the corolla, yellow anthers and are dehiscent through two apical pores. The style emerges between anthers. The fruit is 5-7 cm long, ovoid, glabrous, greenish yellow to orange in color, with longitudinal markings, and the mesocarp is orange. Habitat Present in all areas in Benguet and Mountain Province.The plant grows best in regions having a temperature between 18-22 oC and annual precipitations of 600-800 mm. They also grow best with less soil dehydration and where the light is diffused. The tree tomatoes do not tolerate low temperatures. Economic Importance The fruit is eaten raw or cooked. In all case the skin is removed as it has a bitter flavor. More frequently, it is eaten as a dessert of fruit syrup. It is also sometimes used to make sauce. The fruit can be attributed to have medicinal properties alleviating respiratory diseases and combating anemia. The tree tomato contains adequate number of Vitamins A,B6, C, and E and iron.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Morace-ae	*Ficus sp*	Uplas: Up-das; Aplas	 	Uplas is a perennial shrub/ tree, collectively known as fig trees or figs. Its leaves are rough and thick, vines are small. The fig fruit is an endorsed inflorescence, sometimes referred to as a syconium, an urn like structure lined on the inside with the fig's tiny flowers, possess a white to yellowish sap(latex); the twigs has paired stipules or a circular stipule scar if the stipules have fallen off; and the lateral veins at the base of the leaf. It exhibits similar tiny flowers arranged on a receptacle but in this case the receptacle is a more or less flat, open surface. Its fruit are green in color and are medium in size. Habitat Commonly found freely growing on mountain places of Benguet and some places of Mountain Province. Economic Importance Important both as food and traditional medicine as it contains laxative substances, flavonoids, sugar, vitamins A and C, acids and enzymes. Figs are also of paramount cultural importance throughout the tropics, both as objects of worship and for their many practical uses.
Rosace-ae	*Eriobotrya japonica*	Loquat		It is an evergreen tree, with a rounded crown, short trunk and twigs. The tree can grow to 5- 10 m tall. The leaves are alternate, simple, 10-25 cm long, dark green, tough and leathery in texture, with a serrated margin, and densely velvety-hairy below with thick yellow-brown pubescence. The flowers are 2 cm in diameter, white, with five petals and produced in stiff panicles of three to ten flowers. The fruits grows in clusters, oval, rounded or pear-shaped, 3-5 cm long, with a smooth or downy, yellow or orange and sweet to sub acid or acid. The fruits are sweetish when soft and yellow. Habitat The loquat is adapted to a subtropical to mild-temperature climate. Economic Importance The fruit is eaten fresh and mixes well with other fruits in fresh salads or fruit cups. Firm slightly immature fruits are best for making pies or tarts. The fruits are also commonly used to make jams, jelly, and chutney and are often served poached in light syrup.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Myrta-ceae	*Syzygium javanicum*	Makopa		It reaches a height of 10 m. Young leaves are pinkish and older leaves are large with drooping, elliptic- oblong to broadly oblong – lanceolate, 15-30 cm long, 7-15 wide, narrowed and pointed. Flowers are large, crimson, 5-6 cm in diameter, clustered on racemes about 6 cm long. Fruit is shinny, oblong or pear- shaped, 5-7.5 cm long, white splashed, striped with pink or crimson to purplish, seedless or one seeded. Flesh is white, pithy, and juicy. Although rather tasteless, some varieties have a pleasant flavor. Habitat The plant is commonly grown and is found on the backyard. Economic Importance Fruits are eaten raw but may be prepared with flavoring. Young shoots and leaves are eaten raw or cooked. The bark can be astringent for thrush. A root- bark decoction is used for dysentery and amenorrhea. The juice of the salted pounded bark is used for wounds. The decoction of fruit leaves and seeds are used for fever. The juices of leaves are used for baths and lotions.
Rutaceae	*Citrus medica*	Papas-sok		A small medium tree, usually only 3-6.1 m tall with stiff branches and stiff twigs and short or long spines in the leaf axils. The leaves are evergreen, lemon scented, ovate –lanceolate or ovate elliptic, 5-17.7 cm long. The fragrant flower is white or purplish. The fruit is fragrant, mostly oblong, obovoid or oval, occasionally pyriform, but highly variable. The peel is yellow when fully ripe; usually rough and bumpy but sometimes smooth. Habitat The soils where the citron is grown vary considerably, but the plant requires good aeration. Economic Importance The fruit is candied and are used in the variety of dessert. The pulp can be eaten but too acidic for many people. The fruit can be used also as tea. The peel is a remedy for dysentery and is eaten to overcome halitosis. The distilled juice is given as sedative. A leaf infusion is given as an antispasmodic.

Family	Scientific Name	Vernacular Names/s	Figure	Botanical Description
Sapotaceae	*Pouteriacampechiana*	Tiesa		Known as Tiesa in our country is an erect and generally not more than 8 m, but it may, in favorable situations, reach a height of 27-30 m and the trunk may attain a diameter of 1 m. Slender in habit or with a spreading crown, it has brown, furrowed bark and abundant white, gummy latex. Young branches are velvety brown. The evergreen leaves, alternate but mostly grouped at the branch tips, are relatively thin, glossy, short-to long-stemmed, lanceolate-oblong, or ovate, bluntly pointed at the apex, more sharply tapered at the base; 4 ½ to 11.25-28 cm long, 4-7.5 cm wide. Fragrant, bisexual flowers, solitary or in small clusters are borne in the leaf axils or at leafless nodes on slender pedicels. They are 5- or 6- lobed, cream-colored, silky-hairy, about 8-11 mm long. The fruit, extremely variable in form and size, may be somewhat oval, ovoid or spindle-shaped. It is often bulged on one side and there is a 5-point calyx at the base which may be rounded or with distinct depression. Length varies from 3-5 inches. Unripe fruits are green, hard and gummy internally. Ripe fruits are lemon-yellow, golden-yellow or pale orange-yellow, it is very smooth and glossy. Immediately beneath the skin the yellow flesh is relatively firm and nearly mealy with a few fine fibers. Towards the center of the fruit is softer and pastier. The flavor is sweet, more or less musky, and somewhat like that of a sweet potato. Habitat The canistel thrives in tropical or sub-tropical climate and is found at or below 1,407.08 m elevation. It requires no more than moderate precipitation. It is tolerant of a diversity of soil-calcareous, lateritic, acid-sandy, heavy clay soil. It makes best vegetative growth in deep, fertile, well-drained soil but is said to be more fruitful on shallow soil. Vegetative propagation is preferred in order to hasten bearing and to reproduce the best selections. Economic Importance Canistels are rich in niacin and carotene (provitamin A) and have a fair level of ascorbic acid.

CONCLUSION AND RECOMMENDATION

Conclusion

The study shows that most of the indigenous fruits identified are trees. They were found growing on the wild and some are also being domesticated. They are being propagated through their seeds although they can be propagated through cuttings, budding and marcotting.

Although the indigenous fruits differ from their physical characteristics, the results shows that they are a good sources of vitamins, and they can also be processed into jams/jellies and other processed products which is beneficial to man.

Recommendations

It is further recommended that this study will be continued in all provinces of the Cordillera to have complete list of the possible indigenous fruits. These indigenous fruits which are rich in vitamins should be domesticated by the people of Benguet and Mt. Province in commercial scale to augment the seasonal fruits in these localities.

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LITERATURE CITED

Dagoon, J. D. 2007. Exploratory agricultural arts. Book 1. REX bookstore. Pp. 43-45.

Youngson, R. M. n.d. "Marasmus", “Kwashiorkor", Microsoft® Encarta® 2007 [DVD]. Microsoft Corporation, 2006.