

FOLK MEDICAL USES OF LUNAS *Lunasia Amara* BLANCO BY THE MANOBO PEOPLE, TRADITIONAL HEALERS AND RESIDENTS OF AGUSAN DEL SUR, PHILIPPINES

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ABSTRACT: *This paper presents a folkloric survey of the traditional uses and preparations of Lunasia amara (Blanco). Interviews among the snowball-sampled key informants composed of a resident, a traditional healer and a Manobo healer from each of the sampled areas in the province of Agusan del Sur, Philippines. Results show that the plant is sourced for its medicinal value either from the tree ('lunas-kahoy') and/or the vine ('lunas-bagon'). The bark of the tree or the vine is used as anti-inflammatory (for wounds, bites, skin diseases, fever, ulcer, nausea, heartburn and gastroenteritis); antimotility (diarrhea); antihistamines (for skin allergies and itchiness); antiparasitic (for malaria); antibacterial (for skin diseases and stomach troubles); antitoxin (for food poison, poisoning, tetanus, snake and insect venom); and antiviral (for rabies, chikungunya and dengue). Key informants typically infused the bark with coconut oil and/or tinctured with a local wine ('Kulafu') being affordable and convenient to use. The application of the plant preparations was either by rubbing the infusion to the affected areas or drinking the infusion or tincture if the problem is internal. The current study is in concurrence with those reported ethnomedical applications of the plant done elsewhere indicating that this plant has important pharmacological and chemical properties that should be further investigated.*

Keywords: Folkloric, tincture, infusion, healer

1. INTRODUCTION

The United Nations Human Rights Commission, Millennium Development Goals (MDGs) and the World Health Organization (WHO) mandate appropriate healthcare should be provided the people but inequities in availability, accessibility and affordability of health care is still almost non-existent in many rural and urban regions not only in the Philippines but worldwide. Now, with increasing incidence of chronic diseases, poor access to and limitations of modern medicine, poor rural folks' health-seeking behavior are geared towards traditional medicine to address many health related problems [1,2]. The diversity, flexibility, accessibility, relative low cost, and low side effects when compared to modern synthetic medicine made traditional medicine to become so popular in both developed and developing countries [1]. Because of its popularity in the cure and prevention of many chronic and emerging diseases, an increasing interest in the application of traditional medicine/complementary and alternative medicine (TCAM) to public health emerged [1,3,4]. The challenges however, facing the World Health Organization (WHO) and the Department of Health (DOH) in the Philippines are the consideration of safety, efficacy, quality and rational use of traditional medicine. Problems with access to TCAM can be attributed to issues that the information are mostly undocumented because these are only orally transmitted and mostly community-specific with household level health practices.

There is therefore a need to know and document important information of the folk knowledge or traditional practices which can help address these concerns. Since knowledge of traditional application of medicinal plants are useful for community health care practices [5], documenting plants used by traditional healers, local and tribal people to cure selected health issues are of prime importance. The current study focused in documenting one very popular folkloric plant

called "Lunas" or *Lunasia amara* Blanco, a plant species argued to have many cures among the Manobo people, traditional healers and residents of Agusan del Sur. Knowledge of traditional application of this folkloric medicinal plant can be argued to be useful for community health care practices and for future drug development [5-7].

2. METHODOLOGY

The folkloric survey was done through informal interviews among the snowball-sampled key informants composed of a resident, a traditional healer and a Manobo healer (Table 1) from each of the selected city and municipalities of Agusan del Sur namely Bayugan City; Prosperidad and Talacogon, Agusan del Sur (Fig. 1).

Table (1) Demographic of key informants interviewed about *L. amara* Blanco in Agusan del Sur

No.	Geographical Origin	Distinction	Age	Origin of knowledge
1		Resident	62	father
2	Bayugan City, Agusan del Sur	Manobo*	54	tribe
3		Traditional Healer	46	grandparents
4		Resident	41	neighbor
5	Prosperidad, Agusan del Sur	Manobo	43	tribe
6		Traditional Healer	56	mother
7		Resident	48	mother
8	Talacogon, Agusan del Sur	Manobo	45	tribe
9		Traditional Healer	41	parents

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The folkloric survey of the healing properties and use of *L. amara* Blanco from the key informants were conducted with an informed prior consent in the conduct of the study. The key informants were interviewed using a series of semi-

structured questions related to ‘Lunas’ including the traditional preparations, modes of application, medical uses and origin of knowledge. Field information on *L. amara* was documented in a field record sheet. Photographs of the plant

and its parts were captured for taxonomic keys and identification following [8]. Confirmation of the identification was done and verified by plant a taxonomist.

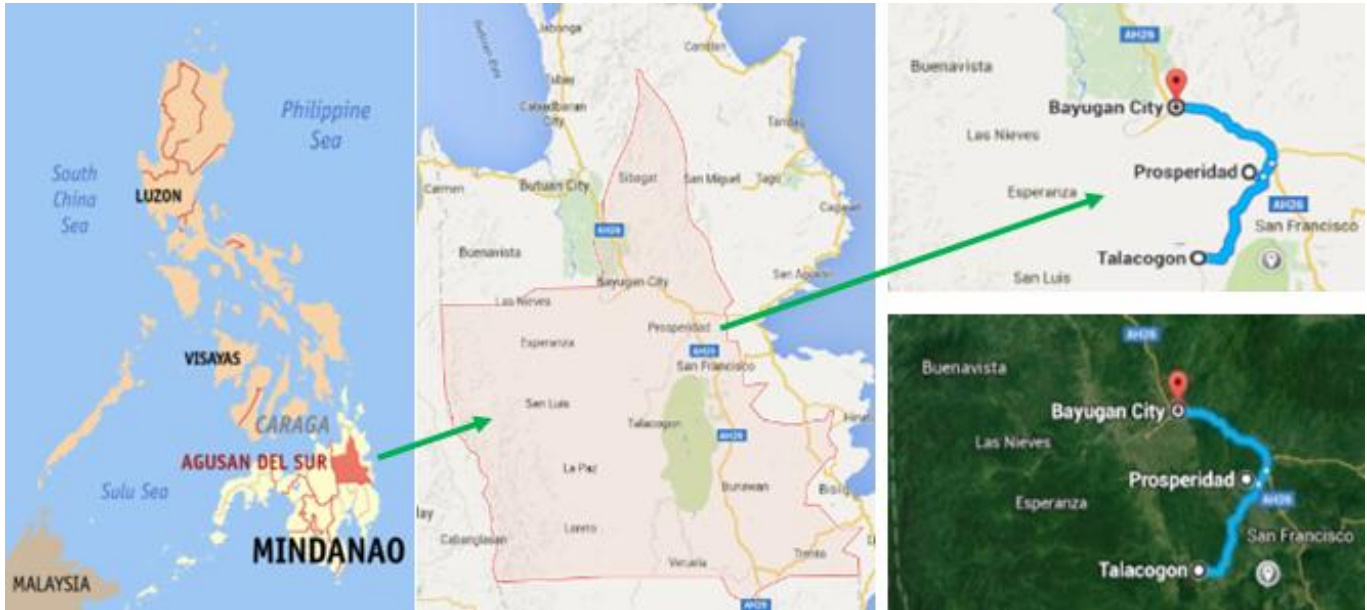


Fig (1) Geographical site of selected city and municipalities of Agusan del Sur

3. RESULTS AND DISCUSSION

There were two varieties identified used by the healers: the tree (‘lunas-kahoy’) and the vine (‘lunas-bagon’) as shown in Fig. 2. Both thrive in medium altitude and grow in clay-like soil habitat. The tree grows in habitat with dry thickets and re-grown gardens. The vine on the other hand, was situated near the river with dry thickets in Midland.

The locally used *L. amara* tree is erect, sparsely branched and around 8-10 m long. Leaves are pale green, 10-60 cm long and 7-20 cm wide with obovate or elliptic blades, rounded to acuminate at the tip and base. Main veins are 10-20 (or more) pairs; margins are subentire to sinuate with smooth twigs. The bark is

smooth and spotted with white or green in the outer part and yellowish in the inner part. Root colors vary from black in primary roots to brown in root hairs. The fruits are green, globose, 3-4 cm in diameter, smooth; rind firm and thick with 3 black seeds and 4 calyces. The vine variety has leaves that are green measured 4-5 cm wide and 9-10 cm long with acute tips and cordate to acute base. The vine has long and woody stem that is rooted in the soil at ground level and use trees or other means of vertical support to ascend for shelter in access for well-lit regions near the well-drained or moist areas of riversides and creeks.

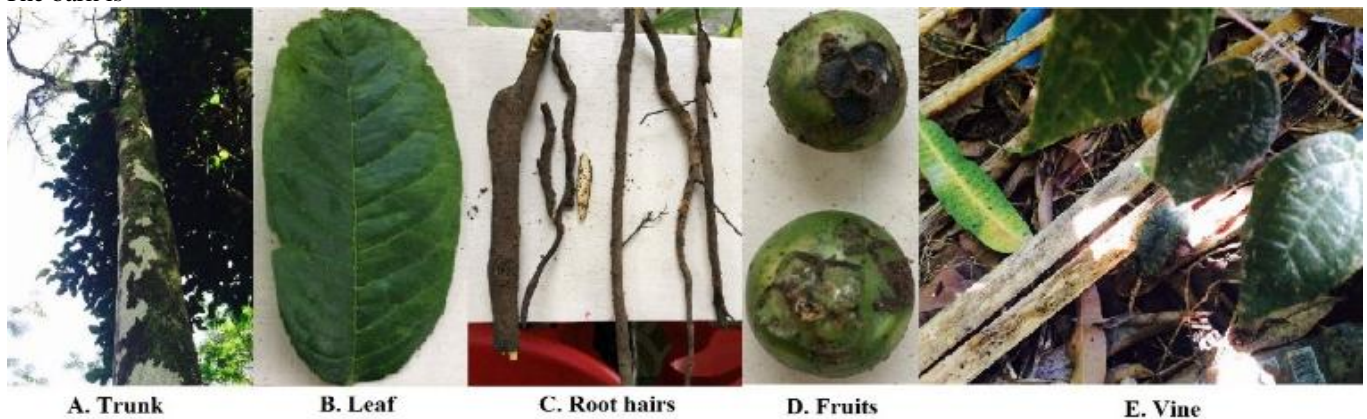


Fig (2) ‘Lunas’ varieties showing the tree ‘lunas-kahoy’ (A-D) and the vine ‘lunas-bagon’ (E)

Table 2 summarizes the consolidated data of ethnomedicinal survey among the key informants. Most of them utilize the vine variety (lunas-bagon) using the bark for treatment either

by infusion or tincture. More often than not, key informants typically infused the bark with coconut oil and tintured with wine (‘Kulafu’). The modes of application include external

application by rubbing on the surface of affected or infected parts. These include treatments of wounds, allergies, skin infection and bites of dogs, snakes and insects. Topical application of the coconut oil-infused bark of ‘lunas-bagon’ or the roots of ‘lunas-kahoy’ are often applied. Oral application by drinking the wine-tinctured bark of ‘lunas-bagon’ or root of ‘lunas-kahoy’ are for treatment of stomach troubles, poisoning, ulcer, nausea, diarrhea, gastroenteritis, antitoxin, antibacterial and antiviral treatments. Traditional medical uses of ‘lunas’ can be classified as anti-inflammatory (for wounds, bites, skin diseases, fever, ulcer, nausea, heartburn and gastroenteritis); anti-motility (diarrhea); antihistamines (for skin allergies and itchiness); antiparasitic (for malaria); antibacterial (for skin diseases and stomach troubles); anti-toxin (for food poison, poisoning, tetanus, snake and insect venom); and antiviral (for rabies, chikungunya and dengue) as presented in Table 2.

The information generated from the key informant healers show similarities of reported traditional use of the plant in the treatment of a variety of health issues ranging from snake bites [9, 10] and stomach troubles [10], Gastralgia and adynamic conditions of digestive system [11], infected eyes [12, Diarrhea, stomach pains [9], Gastralgia [13], Anti-tuberculosis [14], Swollen limbs and skin diseases [14], Swollen limbs and skin diseases [10] and as Hematophagous insect repellents [15].

Biochemical studies on the plant methanolic, hexane and aqueous extracts show the presence of the quinoline alkaloid

lunacridine to be effective against tropical ulcers [16], antitubercular [14] and antibacterial activity [17,18], graveolinine, 4-methoxy-2-phenylquinoline and kokusagine for antituberculosis activity [19], lunacridine and its trifluoroacetyl derivative for DNA intercalation, topoisomerase II decatenation, cytotoxicity and caspase activation activities [16] and Cytochrome P450 2D6 inhibitory effect [20]. A potent anti-tubercular activity against *M. tuberculosis* multidrug-resistant strains found in *L. amara* was also observed to be attributed to the presence of a fully aromatic ring and 4-methoxyl group of quinoline alkaloids [14,19,21].

There is however lack of information into the biochemical basis of the compounds present in the traditional preparations of the plant extracts using oil infusion and local wine tincture being used by the locals and traditional healers. These preparations were known to be very effective in the treatment of a variety of diseases, hence, require further scientific investigation. The traditional practice is important involving the Traditional medicine/Complementary and Alternative Medicine (TCAM) programs of the WHO and DOH of the Philippine government specifically the challenges for policy measures for its promotion, role in primary health care and integration into public health. This pioneering folk medical study of *L. amara* may foster effective conservation and avenues for further phytochemical and pharmacological research investigations for future drug development.

Table (2) Ethnomedicinal survey of the *L. amara* Blanco uses and application in Agusan del Sur

No.	Variety	Part/s used	Preparation	Mode/s of application	Traditional medical use/s
1	Vine	Bark	infusion*	External: Rubbing	bites and wound healing
2	Tree	Bark and Roots	infusion*	Oral: Drinking External: Rubbing	snake and dog bites, the antidote for rabies, venom, and sting, fever bites, wound healing, anti-itch
3	Vine	Bark	tincture**	Oral: Drinking	stomach troubles: diarrhea, malaria, chikungunya, dengue
4	Vine	Bark	infusion*	External: Rubbing	skin diseases and allergies
5	Vine	Bark	infusion*	External: Rubbing	cuts, wounds, and bruises
6	Vine	Bark	tincture**	Oral: Drinking	the cure for ulcers, stomach troubles, and heartburn
7	Tree	Bark and Roots	infusion*	Oral: Drinking External: Rubbing	food poisoning and snake bites, nausea and gastroenteritis the antidote for bites and stings, tetanus
8	Vine	Bark	infusion*	External: Rubbing	skin allergies and wound healing
9	Vine	Bark	infusion*	External: Rubbing	centipede and insect bites, cuts, wounds

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study of *L. amara* may foster effective conservation and avenues for further phytochemical and pharmacological research investigations for future drug development.

4. CONCLUSIONS

The result of the folkloric survey of the traditional use and preparations of *L. amara* from the tree (‘lunas-kahoy’) and the vine (‘lunas-bagon’) among the key informants of the indigenous Manobo people, traditional healers and residents of Agusan del Sur is in concurrence with reported studies of the pharmacological properties of the compounds identified from the plant extracts. There is however a need to isolate

and describe those active compounds from the traditional preparations of the healers considering that these were shown to treat a variety of health conditions. This is important in the integration of the traditional practice of the locals and the healers in the TCAM programs of the government specifically the challenges for policy measures for its promotion, role in primary health care and integration into public health.

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