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Ethnobotanical documentation of plants used as traditional therapies by Partido Albularyo in the Philippines

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Abstract

This study generally aims to study the use of medicinal plants by folk healers in the eastern part of the province of Camarines Sur, the Philippines. Folk healers are identified as the local experts in traditional medicine because of their notable experiences, which have endured over time and are rooted in a body of knowledge that is customarily passed on orally. Thus, collecting their practices and knowledge can preserve the nearly extinct intangible national treasures that may include unstudied plants that can be subjected to pharmacological, botanical, and/or chemical research in the quest to discover new medicines to cure various illnesses. To materialize these, the study conducted a field survey from February to August 2020 and used the informant consensus factor (ICF), use value (UV), and fidelity levels (Fl) to determine the level of agreement among informants on the use of plants as remedies. The study found 153 species of plants from 60 families that are used as curative materials for 17 categories of diseases, including various folk illnesses and beliefs about non-corporeal agents. This study confirms that there is still rich cultural knowledge and practices of using plants as a major source of medicine among folk healers. The findings highlight the importance of collecting ethnopharmacological data and conducting pharmacological evaluations of the identified plants, particularly those with higher fidelity levels and use values.

Keywords: Ethnomedicine, Ethnobotany, Folk healing, Hilot, Herbs, Traditional Medicine

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1. Introduction

Medicinal plants and herbs have been used for many centuries as a source of people's drugs for the treatment and prevention of diseases, disorders, and the promotion of good health and continue to provide the first line of primary health care for major segments of the global population [1, 2]. According to the World Health Organization, it is estimated that up to 60% of the population depends exclusively on plants for their health and healing [3]. Information and folk knowledge about the medicinal and therapeutic uses of these indigenous plant materials have been passed down from generation to generation via oral communication [4].

The focus of this study is the documentation of ethnobotanical practices, or the use of plants to cure one's illnesses, by Partido albularyo, or the general practitioner of hilot modalities, in the eastern part of the province of Camarines Sur, the Philippines [5]. Similar to other traditional medical practices, Partido Albularyo's practices are also threatened with extinction. The rapid disappearance of traditional culture suggests that unrecorded folk knowledge and information may be lost forever [6]. The World Health Organization has a strategy to "integrate TM/CAM with national health care systems, as appropriate, by developing and implementing national TM/Cam policies and programs." Two of its components are the recognition of TM/CAM

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and the protection and preservation of indigenous TM knowledge relating to health. In the Philippines, a law was enacted, known as the "Traditional and Alternative Medicine Act (TAMA) of 1997," to create an institution that will accelerate the development of traditional and alternative healthcare in the country.

Nevertheless, there are still a few systematic studies conducted in the Philippines that deal with recording these significant informational resources. These include, but not limited to, the study in Apayao [7], Bataan [8], Benguet Province [9], Bukidnon [10], Surigao Del Sur [11]; Albay [12]; and Guimaras [13]. Concomitantly, there is no recorded ethno-botanical knowledge and practices in Camarines Sur. This area is rich in diverse flora, which could have played a significant role in effective ethnobotanical practice. The patronization and presence of albularyo in the area provides significant evidence that there is rich ethnobotanical knowledge [14]. With proper documentation and scientific research, traditional medicine can solve many of the basic healthcare service problems in remote communities [15]. This documentation can also contribute to the development of new drugs and therapies based on traditional medicine. Thus, this calls for the urgent conservation and recording of these cultures for the benefit of present and future generations.

2. Methodology

Fieldwork was conducted between February and August 2020. A total of two hundred fifty (250) traditional health practitioners from the eastern side of Camarines Sur – Presentacion, Garchitorena, Caramoan, Logonoy, Tinambac, and Siruma – were interviewed separately on different occasions. The study area is a coastal-mountainous community and is identified with a high incidence of poverty and relatively poor access to quality healthcare facilities. All the informants agreed and signed a consent form, which was then compiled and secured by the researcher. The interview was collected using a voice recorder and analyzed after the interview. Photo documentation was used to document the herbs and other health practices. Each ethnomedicine, such as herbs, was documented to be assigned a scientific name. The Dictionary of Philippine Plant Names, Volumes I and II, by Madulid, was used to determine the scientific names of the medicinal plants [16]. The study used quantitative ethnobotanical methods such as the informant consensus factor (ICF), Use Value (UV), and Fidelity Levels (FL). The data was analyzed using MS Excel. The data collected were analyzed quantitatively using informant consensus factor [17, 18], fidelity levels [18, 19], and use values [18, 20].

3. Results and Discussion

3.1 The Partido Albularyo

The Partido Albularyo are traditional healers who specialize in treating ailments using plants and herbs. Their actions are inspired by their own experiences, knowledge from close family members, or a sense of divine calling. Folk healing knowledge often spreads via knowledge transfer, and the strong kinship structure in Filipino culture may be seen in how family traditions and rituals are passed down and maintained. The Partido Albularyo is mostly female (76%), married (68%), educated only in elementary school (45%), and poor (98%), with an average of 7 children and a median age of 64. The Partido Albularyo is a group of traditional healers in the Philippines who rely on herbal medicine and spiritual practices to treat illnesses. Despite their lack of formal education, they play an important role in providing healthcare to their communities, especially in rural areas with limited access to modern medicine.

3.2 Characteristics of medicinal plants

There are 153 species of plants identified by the informants as treatments for various illnesses. These species are further classified into 60 families of plants. Fabaceae (legume family) has the most species (15), followed by Euphorbiaceae (spurge family) and Zingiberaceae (ginger family) with 10 each. Other plant families with five or more species

are Rutaceae (citrus family), Moraceae (fig family), Lamiaceae (mint family), Poaceae (grass family), and Asteraceae (daisy family).

The study found that Partido Albularyos use various parts of the plants, such as leaves (56%), roots (20%), bark (7%), stems (6%), fruits (5%), seeds (2%), flowers (1%), sap (1%), and the whole plant (2%). These plants can either be taken internally (63%), applied or patched externally (32%), or both (5%). They prepare medicinal plants in a variety of ways before administering them. Most of the medicinal plants must undergo pounding or crushing (51.9%), boiling (26.2%), steaming (7.3%), heating (6.4%), or burning (1.3%).

3.3 Informant consensus factor and fidelity level of medicinal plants

The study also calculated the informant consensus factor to identify plants of intercultural relevance and agree on their use. The ICF value ranges between 0.00 and 1.00. High ICF means that only one or few plant species are identified or reported by a high proportion of folk healers to treat a particular category while low ICF values indicate disagreement with the plant to use the disease category [20]. The study used the International Category of Diseases (ICD-11) of the World Health Organization for the category of diseases. It is a scientifically up-to-date global standard for health data, clinical documentation, and statistical aggregation.

The informants have reported 16 categories of diseases (ICD) or medical conditions and added one category – other culture-bound syndromes (diseases caused by non-corporeal agents and *usog*). Table 1 presents these categories, where traditional medical conditions (ICD11 Chapter 25), symptoms, signs, or clinical findings not elsewhere classified (ICD11 Chapter 21), and certain infectious or parasitic diseases (ICD11 Chapter 1) are the top 3 diseases that comprise the majority (60.8%) of the diseases reported. This finding reflects the subject of traditional therapy among folk healers, which focuses on traditional medicine (common colds, muscle spasms, and other culture-bound syndromes), unclassified illnesses (cough, rheumatism, stomach pain), and diseases caused by infection or parasites (gonorrhea, coronavirus, measles, pox, mumps, fever, influenza, dengue, chikungunya). These three categories of diseases are among the categories with the highest ICF, which means that the folk healers in the study area have higher agreement on the use of certain plant species in treating these disease categories.

Table 1. Informant consensus factor (ICF) and fidelity levels on medicinal plants

ICD-11	Illness Category	Illnesses or Diseases	No. of use report	ICF	Most frequently used species	FL % in this category
1	Certain infectious or parasitic diseases	gonorrhea, corona virus, measles, pox, mumps, fever, influenza, dengue, chikungunya, malaria, diarrhea	311	0.75	*Artemisia vulgaris*	34.34
2	Neoplasms	cancer, breast cancer	32	0.35	*Rauvolfia serpentina*	20.00
3	Diseases of the blood or blood-forming organs	Anemia	5	0.25	*Caesalpinia sappan*	50.00
5	Endocrine, nutritional, or metabolic diseases	Diabetes	14	0.38	*Rauvolfia serpentina*	20.00
8	Diseases of the nervous system	seizure, migraine, headache	79	0.71	*Blumea balsamifera*	12.84
9	Diseases of the visual system	conjunctivitis (sore eyes)	2	1	*Euphorbia hita*	4.26
11	Diseases of the circulatory system	hypertension, hypotension, heart diseases	102	0.66	*Cymbopogon citratus*	43.86

ICD-11	Illness Category	Illnesses or Diseases	No. of use report	ICF	Most frequently used species	FL % in this category
12	Diseases of the respiratory system	sinusitis, asthma, pneumonia, lung problem, tonsilitis	29	0.32	*Mentha arvensis*	9.52
13	Diseases of the digestive system	gastric ulcer, toothache	23	0.14	*Psidium guajava*	5.88
14	Diseases of the skin	skin diseases, skin allergy, boils	38	0.38	*Zingiber zerumbet*	40.00
15	Diseases of the musculoskeletal system or connective tissue	arthritis, swelling of muscles	48	0.4	*Morinda* sp.	60.00
16	Diseases of the genitourinary system	menstrual cycle disorders, kidney problem, liver problem, urinary tract infection	128	0.66	*Lagerstroemia speciosa*	82.14
18	Pregnancy, childbirth, or the puerperium	*baghat* (relapse), newly delivered, pregnancy	129	0.74	*Cordia dichotoma*	67.80
21	Symptoms, signs, or clinical findings, not elsewhere classified	cough, rheumatism, dyspepsia (stomach pain)	319	0.79	*Plectranthus amboinicus*	38.30
22	Injury, poisoning or certain other consequences of external causes	poison, wounds, animal bite	59	0.41	*Psidium guajava*	15.69
25	Traditional Medicine Conditions	common cold disorder, muscle spasm disorder, *pasma*, *lipot*, *nasibogan*	473	0.87	*Plectranthus amboinicus*	60.64
n/a	Other culture bound syndromes	mystical element, *sibang*	23	0.59	*Zingiber officinale*	32.26

Further, the study used Fidelity Levels (Fl) to determine the ratio between the number of informants who independently suggested the use of a species for the same disease category and the total number of informants who mentioned the plant for any use. Table 1 highlights various plant species as the most frequently used species for each disease category. It shows that *Lagerstroemia speciosa,* a plant used to cure genitourinary system diseases, has the highest fidelity level. This means that informants who identified this plant species have a high agreement to be used in the said category. It can be observed, however, that most of the plant species for each category have low Fl. This indicates that folk healers use certain plants in many categories of diseases.

3.4 Use value of medicinal plants

The study employed Use Value (UV) to identify which plant species are mostly used in therapeutics (Table 3). The study revealed that 7 of 10 recommended medicinal plants by the Department of Health in the country were identified as medicinal plants of the albularyos in the study area [21]. These plants are *Allium sativum*, *Blumea balsamifera*, *Momordica charantia*, *Peperomia pellucida*, *Psidium guajava*, *Quisqualis indica*, and *Vitex negundo*. *Cassia alata*, *Clinopodium douglasii*, and *Ehretia microphylla* were not identified as herbal medicines. *Blumea balsamifera* and *Psidium guajava* are two of the recommended medicinal plants with the highest use values of 0.592 and .204, respectively. Other medicinal plants with high use values are *Artemisia vulgaris* (0.664), *Plectranthus amboinicus* (0.376), *Cordia dichotoma* (0.236), *Cymbopogon ciiratus* (0.228), *Citrus microcarpa* (0.196), *Euphorbia hita* (0.188), *Piper betle* (0.168), and *Moringa oleifera* (0.16). Table 2 shows the identified medicinal plants, their family, scientific name, local name, the illness or type of illness for which the plant is used for medicinal purposes, the plant part used, and preparation and administration. The table also presents the number of use reports and the use value. Out of 153 species identified, Table 2 shows only those with at least a 0.02 use value, or 5 use reports.

Table 2. Medicinal plants, family, scientific name, and their use value.

No.	Family	Scientific Name	No. of use report	Use Value	Local Name	Illness or types of illness	plant parts use	Preparation and administration	
1	Verbenaceae	*Cleredendrum intermedium* Cham.	20	0.008	alibagta/ matang tikling/	colds, flu	leaf	B	Drink decoction and apply the steamed leaf
2	Euphorbiaceae	*Melanolepis multiglandulosa* (Reinw.) Reichb. F. & Zoll. var *multiglandulosa*	9	0.036	Alom	pasma, fever, colds	leaf	I	Drink decoction
3	Boraginaceae	*Cordia dichotoma* Forst. F.	59	0.236	Anunang	baghat, newly delivered mother, pasma, headache, abdominal pain	bark, leaf	I	Boil and drink concoction
4	Crassulaceae	*kalanchoe pinnata* (Lam.) Pers.	10	0.04	Aritana	swelling, boils	leaf	E	Patch the crushed leaves
5	Asteraceae	*Artemisia vulgaris* L.	166	0.664	Artamesa	headache, flu, cough, colds, baghat, pasma	leaf	B	Drink or apply decoction or concoction
						wounds	leaf	E	Patch the crushed leaves
						abdominal pain, indigestion	leaf	I	Drink the heated decoction with salt and oil
						menstrual problem, nasibogan, pneumonia, asthma, high blood pressure	leaf	I	Drink decoction
						sore eyes	leaf	E	Drink decoction or apply the steamed leaves
						body pain	leaf	E	Massage decoction with oil
6	Lauraceae	*Persea americana* Mill.	26	0.104	Avocado	cough, colds, diarrhea, UTI, kidney problem, ulcer, low blood pressure	leaf	I	Boil and drink decoction
7	Poaceae	*Eleusine indica* (L.) Gaertn.	25	0.1	bag-angan	baghat, high blood pressure, kidney problem, dengue, UTI, cancer, COVID-19, cough	leaf	I	Boil and drink decoction
8	Oxalidaceae	*Averrhoa carambola* L.	11	0.044	balingbing	pasma, flu, cough	leaf	B	Boil and drink decoction; Boil with other leaves and use the water in a bath
9	Lythraceae	*Lagerstroemia speciosa* (L.) Pers.	28	0.112	Banaba	kidney stone, UTI, prostate cancer, cough, colds	leaf	I	Boil and drink decoction or concoction
						diarrhea	root	I	Drink decoction
10	Musaceae	*Musa* L.	8	0.032	Batag	muscle spasm	leaf	I	Patch the steamed leaf with coconut oil
						abdominal pain	leaf	I	Patch as cold compress
11	Alliaceae	*Allium sativum* L.	8	0.032	Bawang	swelling with fever, toothache, culebra, pneumonia, high blood, kabag,	roots	E	Drink concoctions and decoction
12	Myrtaceae	*Psidium guajava* L.	51	0.204	Bayawas	Wounds	leaf	E	Wash with boiled leaf
						baghat, lung problems, kidney problem, UTI, abdominal pain, cough, colds, fever	leaf	I	Drink decoction or concoction
13	Piperaceae	*Piper betle* L.	42	0.168	buyo	muscle spasm, boils, culebra, toothache, flu, mystical elements, usog, baklay,	Leaf	E	Apply the betel quid, usually with prayers
14	Annonaceae	*Annona muricata* L.	28	0.112	guyabano	cancer, high blood pressure, diabetes, kidney stone, lung problem, UTI, cough, pasma, diarrhea, arthritis	leaf	I	Boil and drink decoction
15	Lamiaceae	*Mentha arvensis* L. var. *arvensis*	21	0.084	herba buena	baghat, flu, cough, colds, pasma	leaf	B	Drink or apply decoction
						sang-ab	leaf	E	Inhale the crushed leaves
16	Zingiberaceae	*Zingiber zerumbet* (L.) Sm.	15	0.06	kalawag	boils, culebra, skin diseases	root	E	Apply decoction
17	Moringaceae	*Moringa oleifera* Lam.	40	0.16	kalunggay	wounds, culebra, boils, skin disease, usog, toothache	leaf	E	Apply decoction
						colds, diabetes, alpersiya, cancer, heart problem, animal bite, high blood pressure, pneumonia	leaf	I	Drink decoction
18	Lamiaceae	*Ocimum tenuiflorum* L.	7	0.028	kamangkaw	baghat, flu, cough, colds	leaf	B	Drink and apply the decoction
19	Fabaceae	*Senna alata* (L.) Roxb.	5	0.02	kasitas	skin diseases	leaf	E	Apply decoction
20	Bombacaceae	*Ceibapentandra* (L.) Gaertn.	10	0.04	Kayo	nagsuka,nag-udo	bark	I	Boil and drink decoction
						lapo (muscle spasm)	leaf	E	Patch steamed leaves
21	Solanaceae	*Capsicum frutescens* L.	11	0.044	lada	diabetes, anti-bacteria, high blood, alpersiya, fever	fruit	I	Eat the fruit

No.	Family	Scientific Name	No. of use report	Use Value	Local Name	Illness or types of illness	plant parts use	Preparation and administration	
22	Verbenaceae	*Vitex negundo* L.	38	0.152	lagundi	cough, colds, flu, diarrhea, high blood pressure, prostate cancer	leaf	I	Boil and drink decoction
23	Asteraceae	*Blumea balsamifera* (L.) DC.	148	0.592	lakad bulan	flu, headache, colds, cough	leaf	I	Drink rice water with soaked leaves and apply the steamed leaves forehead and back neck
						kidney, UTI, lung problem, high blood pressure, diarrhea	leaf	I	Boil and drink decoction
						baghat, surip, nasibugan, body ache	leaf	I	Boil and drink decoction
24	Zingiberaceae	*Zingiber officinale* Rosc.	31	0.124	layang gayo	abdominal pain, high blood pressure, flu, pasma, dizziness	root	B	Drink as ginger tea
						flu, chest pain, abdominal pain, usog	root	E	Patch the crushed root
25	Rutaceae	*Citrus microcarpa* Bunge	49	0.196	lemonsito	flu, abdominal pain, pasma, nasibugan	fruit, leaf	B	Drink and apply decoction
26	Araceae	*Acorus calamus* L.	13	0.052	lubigan	mystical element	leaf	I	Chewing of leaves
						alpersiya, abdominal pain, prostate cancer,	root	I	Drink decoction
						snake bite, diarrhea, abdominal pain	root	E	Apply pounded roots
27	Rutaceae	*Citrus grandis* (L.) Osb.	8	0.032	lukban	headache, fever	leaf	E	Apply crushed or steamed leaves to the forehead
						pasma, baghat	bark, root	I	Drink the crushed and heated decoction
28	Zingiberaceae	*Curcuma domestica* Valet.	7	0.028	luyang dilaw	cancer, cyst, colds, prostate cancer, diarrhea, fever	root	I	Drink as tea
						swelling, culebra	root		Patch the crushed root
29	Fabaceae	*Glicicidia sepium* (Jacq.) Kunth ex Walp.	11	0.044	madre kakaw	Wounds, skin diseases	stem	E	Patch a pounded stem
						skin disease, usog	leaf	E	Apply decoction
30	Poaceae	*Zea mays* L.	5	0.02	Mais	kidney problem	leaf, hair	I	Boil and drink decoction
31	Menispermaceae	*Tinospora crispa* (L.) Hook. f. & Thoms.	9	0.036	Makabuhay/ onong-onong	abdominal pain, toothache, diarrhea, baghat, tonsilitis	leaf, root, bark	I	Boil and drink decoction
						swelling, wounds, culebra, boils, cancer, muscle pain	leaf	E	Apply the steamed leaf
						skin disease	whole plant	E	Apply the crushed plant
32	Malvaceae	*Hibiscus tiliaceus* L. subsp. *tiliaceus*	5	0.02	malubago	pasma, fever, cough, colds	leaf	I	Drink concoction
33	Anacardiaceae	*Mangifera indica* L.	12	0.048	mangga	kidney stone, lung problem, cough, high blood pressure, colds, pasma, pneumonia	leaf	I	Boil and drink decoction
34	Cucurbitaceae	*Mormordica charantia* L.	8	0.032	marigoso	colds, cough, alpersiya, low blood pressure	leaf	I	Drink the heated decoction
35	Rubiaceae	*Morinda* sp.	15	0.06	Nino	lapo (muscle spasm), boils, cough, culebra	leaf	E	Apply the heated leaves
36	Arecaceae	*Cocos nucifera* L.	21	0.084	Niyog	pasma, cancer	fruit	I	Drink burnt coconut shell
						kidney stone, UTI	fruit	I	Drink the coconut water
						COVID -19	fruit	I	Drink coconut wine
37	Moraceae	*Ficus pseudopalma* Blco.	14	0.056	niyog-niyog	kidney stone	leaf, root	I	Boil and drink decoction
						high blood pressure	fruit	I	Boil and drink decoction
						animal bite (snake, dog)	root, bark	B	Drink and apply the decoction
38	Lamiaceae	*Plectranthus amboinicus* (Lour.) Spreng.	94	0.376	oregano	colds, cough, fever	leaf	I	Drink decoction or apply the crushed leaves
39	Pandanaceae	*Pandanus spp.*	12	0.048	pandan	kidney problem, high blood pressure, prostate cancer, UTI	leaf	I	Boil and drink concoction
40	Poaceae	*Oryza sativa* L.	11	0.044	paroy	Pasma	seeds	I	Drink roasted rice as coffee
41	Bromeliaceae	*Ananas comosus* (L.) Merr.	5	0.02	pinya	nasibugan, pasma	leaf	I	Drink decoction or concoction
42	Asteraceae	*Chrysanthemum morifolium* Ramat	20	0.08	Rosas de hapon/ mansanilya	colds, cough, pasma	Leaf	I	Drink or apply the heated decoction or concoction
43	Clusiaceae	*Cratoxylum sumatranum* (Jack) Bl. subsp. *Sumatranum*	12	0.048	salingogon	colds, cough, fever, pasma	Leaf	I	Drink concoction
44	Meliaceae	*Sandoricum koetjape* (Burm, f.) Merr.	28	0.112	santol	abdominal pain, diarrhea, baghat	roots	I	Drink concoction
						diarrhea, prostate cancer, kulatid, kidney stone, lung problem, ulcer	bark	I	Boil and drink decoction

No.	Family	Scientific Name	No. of use report	Use Value	Local Name	Illness or types of illness	plant parts use	Preparation and administration	
						baghat, colds, cough, diarrhea, ulcer, pneumonia, UTI, pasma	leaf	I	Boil and drink concoction
45	Apocynaceae	*Rauvolfia serpentina* (L.) Benth. ex Kurz	15	0.06	serpentina/ esensya	myomas, diarrhea, abdominal pain, menstrual problem, diabetes, athritis, baghat, dysmenorhea, high blood pressure, UTI, rheumatism	leaf	I	Boil and drink decoction
46	Piperaceae	*Peperomia pellucida* (L.) H.B.K.	36	0.144	suro suro	colds, kidney problem, alpersiya, baghat, fever, cough,	Leaf	I	Drink decoction
47	Rutaceae	*Swinglea glutinosa* (Blco.) Merr.	5	0.02	tabog	cough, pasma	leaf	I	Drink concoction
						Bleeding	bark	I	Boil and drink decoction
48	Zingiberaceae	*Alpinia brevilabris* Presl	7	0.028	tagbak	heart problem, pasma	stem, leaf	I	Boil and drink decoction or concoction
49	Zingiberaceae	*Curcuma zedoaria* (Berg.) Rosc.	19	0.076	tamahilan	colds, cough, abdominal pain, fever	root	I	Drink decoction
50	Poaceae	*Cymbopogon citratus* (DC.) Stapf	57	0.228	tanglad	high blood pressure, pasma, nasibugan, baghat, kidney problem, athritis, UTI	whole plant	I	Boil and drink decoction and concoction
51	Caricaceae	*Carica papaya* L.	8	0.032	tapayas (lalaki)	dengue, fever	leaf	I	Drink decoction
						Gonorrhea	leaf	I	Boil and drink decoction
						Boils	bark	E	Apply decoction
52	Euphorbiaceae	*Euphorbia hita* L.	47	0.188	tawa tawa	dengue, fever, colds, pasma	leaf	I	Drink decoction
53	Fabaceae	*Mimosa pudica* L.	10	0.04	turog-turog	kidney stone, bleeding, baghat	root	I	Drink decoction
54	Euphorbiaceae	*Jatropha gossypiifolia* L.	14	0.056	tuba-tuba	fever, lapo, mystical element	leaf	E	Patch steamed leaves
						skin disease	leaf	E	Apply decoction
55	Zingiberaceae	*Costus speciosus* (Koen.) J.E. Sm.	13	0.052	tubong usa	pasma, cough	stem	I	Boil and drink decoction
						Diabetes	leaf	I	Drink decoction

Legend: I- internal; E – external; B – can be internal and/or external

3.5 Plant species based on IUCN Red List

Out of the total 55 species that have been identified, 17 of them have been officially listed on the red list of threatened species by the International Union for Conservation of Nature (IUCN). All of these 17 plant species are listed as ‘least concern’ in terms of their conservation status. A taxon is classified as 'least concern' (LC) after undergoing evaluation based on the red criteria. This classification is given to taxa that do not meet the criteria for being critically endangered, endangered, vulnerable, or nearly threatened. Among them, *Capsicum frutescens* is the only one identified as decreasing.

4. Conclusion

The findings of this study shed light on the crucial role of traditional healers, specifically the Partido Albularyo, in the eastern part of Camarines Sur, Philippines, and their extensive use of medicinal plants and herbs for treating various ailments. Given the threat of extinction that traditional medical practices face, the study emphasizes the urgent need for documenting and preserving the rich ethnobotanical knowledge that is present in this area. The documented information on medicinal plants and their uses not only contributes to the preservation of cultural heritage but also opens avenues for scientific research and the development of new drugs and therapies based on traditional knowledge. The study also highlights the importance of integrating traditional medicine into national healthcare systems, as advocated by the World Health Organization. The identified plant species with high-use values aligning with Department of Health recommendations indicate the potential for collaboration between traditional healers and modern healthcare systems. Recognizing and validating the efficacy of certain traditional remedies can lead to a more holistic and culturally sensitive approach to healthcare. The urgent conservation and recording of ethnobotanical knowledge are paramount. This will not only benefit present communities but also contribute to the global understanding of traditional medicine and its potential role in addressing healthcare disparities. The study serves as a call to action for researchers, policymakers, and healthcare practitioners to collaborate in preserving and promoting the valuable heritage of medicinal plant use for the well-being of current and future generations.

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Conflict of Interest
The author has no conflict of interest.

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