



Traditional Medicinal Plants Used as Anti-cancer in the Philippines: A Systematic Ethnobotanical Review

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Review

Abstract

Background: As an archipelagic tropical country, the Philippines hosts abundant and diverse medicinal plants that have long been utilized as herbal remedies for diseases like cancer by over 112 ethnolinguistic groups, along with the locals, across its islands. With this diversity, a comprehensive identification of common anticancer herbal remedies is deemed important to serve as an exhaustive reference list for validating the efficacy of traditionally used medicinal plants against cancer. However, existing ethnobotanical records are limited to studies that conduct general ethnobotanical documentation which are not specified for anticancer use only. Hence, this review compiled previous studies on medicinal plants used as anticancer by locals and ethnic groups in the Philippines.

Methods: Studies with information on medicinal plants used for anticancer were obtained from ScienceDirect, PubMed, DOAJ, Google Scholar, and MSU-IIT DBS. Titles, abstracts, and articles were reviewed independently by three reviewers, and the quality of included studies was then evaluated using a quality assessment tool specific to ethnobotanical studies. The PRISMA design was used to carry out this review from inception to April 25, 2024.

Results: The qualitative synthesis included 71 new studies mostly conducted in Mindanao, followed by Luzon and Visayas, respectively. A total of 68 families, 145 genera, and 390 plant species were documented, of which the most commonly mentioned were the families Zingiberaceae, Annonaceae, and Apocynaceae. Meanwhile, the most frequently cited genera were *Annona*, followed by *Curcuma* and *Ficus*. Plant parts commonly used for anticancer preparations were leaves, roots, and fruits, respectively, with decoction being the predominant mode of preparation. *Annona muricata* emerged as the most commonly mentioned plant species, followed by *Curcuma longa* and *Catharanthus roseus*.

Conclusions: This review showed that the widespread and sustained utilization of herbal plants with anticancer properties across the Philippines is pivotal in cancer healthcare in the country, reflecting the deeply-rooted traditional knowledge and practices within local communities. Moreover, many similarities in ethnobotanical practice were observed across the claimants, hence showing the shared knowledge of traditional medicinal practices among different Filipino communities.

Keywords: Philippines, medicinal plants, ethnobotany, anticancer, herbal remedies, herbal preparations, traditional knowledge, indigenous

Background

For many years, herbal products have been widely used as natural modalities for treating and preventing various diseases worldwide, with approximately 70% of the global population incorporating herbal medicines into their primary healthcare (Wills *et al.* 2000). Especially in tropical countries like the Philippines, the abundant, diverse, and easily accessible medicinal plants in the surroundings contribute to a growing reliance on cost-effective “natural”, thus perceived “safe”, solutions to health problems (De Moraes *et al.* 2006, Liu 2021); although scientifically speaking, these notions are not synonymous (Gaston *et al.* 2020). With this, researchers are increasingly exploring herbal medicine as a potential alternative healthcare practice, with many herbal plant species already validated and approved for medicinal use.

Like many regions globally, the escalating prevalence of cancer continues to pose a significant challenge in the Philippines (Morampudi *et al.* 2017, Rajput *et al.* 2022). As a complex disease (Amundadottir *et al.* 2004), defining the diverse etiology of cancer is essential for implementing appropriate and effective interventions. With the Philippines’ strong agrarian profile, compounded by the country’s economic constraints, the exorbitant cost of cancer treatment and a shortage of cancer care facilities lead many cancer patients to turn to herbal remedies (Arevalo *et al.* 2022). Hence, tailoring treatments shouldn't only rely on synthetic drugs but should also explore the potential of these traditionally sourced medicinal plants in cancer therapy. Although a wealth of local ethnobotanical reports is available, the existing information is limited to independent studies that conduct general documentation of plants and their ethnomedicinal uses which are not specified to anticancer use only.

Given that the Philippines is an archipelago with over 112 ethnolinguistic groups having diverse cultural practices across its islands (De Vera 2007), it is important to systematically review and analyze these ethnobotanical records merely specified to individual ethnobotanical uses like anticancer. Such an endeavor not only allows for comprehensive identification of common herbal remedies used as anticancer but also sheds light on regional differences and the complex biology influencing plant usage—differences in plant parts used, modes of preparation, and administration. These details are important since variations in the course of plant utilization influence its therapeutic effects. This is because the bioactive compounds in plants, which are responsible for the ethnomedicinal effects, have different solubilities, among other properties, that affect their potential. With the high cost needed to identify effective procedures of plant selection, utilization, and analysis to determine anticancer agents that can be used for pharmaceuticals, starting with a baseline knowledge is auspicious to guide researchers in the selection of potential candidates. Thus, this study aims to serve as an exhaustive reference list for validating the efficacy of traditionally used medicinal plants for anticancer.

Tapping indigenous knowledge and bridging it with contemporary research is a crucial step in paving the way for a more comprehensive and culturally aware approach to cancer care. With that, this review aims to: (1) record the ethno-oncology of Filipinos, including the locals, ethnic groups, and IPs, and (2) conserve the ethnomedicinal knowledge and practice for anticancer remedies to serve as a resource for future studies, validation, and approval. All of these are in support of the goal of the Philippine government that promote research and innovation in traditional medicine through agencies such as the Department of Science and Technology (DOST) and the Philippine Council for Health Research and Development (PCHRD).

Materials and Methods

Review Team and Research Question Asked

One reviewer—KLC, conducted the review of titles and abstracts. Eligible articles were then retrieved in full text for a subsequent evaluation by CGD and MAJT, and re-evaluation by KLC, each working independently. Upon disagreements on the inclusion and exclusion of articles, a consensus is made through careful collaborative re-evaluation of the three reviewers; all ensuring to include records that could answer the questions: “What are the plants being traditionally used by local communities/indigenous groups in the Philippines as anticancer?” “What plant part(s) are used and how do they prepare and administer it?” “What plant families, genera, and species are the most commonly utilized?” “Which regions have the most ethnobotanical studies on Philippine medicinal plants used as anticancer and how many studies have been conducted through the years?”. Figure 1 shows the process of record identification, screening, and inclusion using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA).

Data Sources and Design

This systematic review was carried out by sourcing out literature from three databases: 1) ScienceDirect, Elsevier’s largest trusted platform for researchers that contains extensive scientific content; 2) PubMed, the United States National Library of Medicine (NLM) at the National Institutes of Health, an authoritative source that contains a wealth of biomedical and life sciences literature; and 3) Directory of Open Access Journals (DOAJ), an open-access database of multidisciplinary articles.

These databases were selected based on their comprehensive coverage, availability of open access contents, credibility, and reputation; as used by other authors for their review, and accessibility; since other academic research databases require institutional access, which MSU-IIT does not have subscriptions for. Google Scholar was also used in manual searching, including forward and backward citations, as well as on relevant studies from the MSU-IIT Department of Biological Sciences repository. The PRISMA design (Page *et al.* 2021) was used to carry out this review from inception to April 25, 2024.

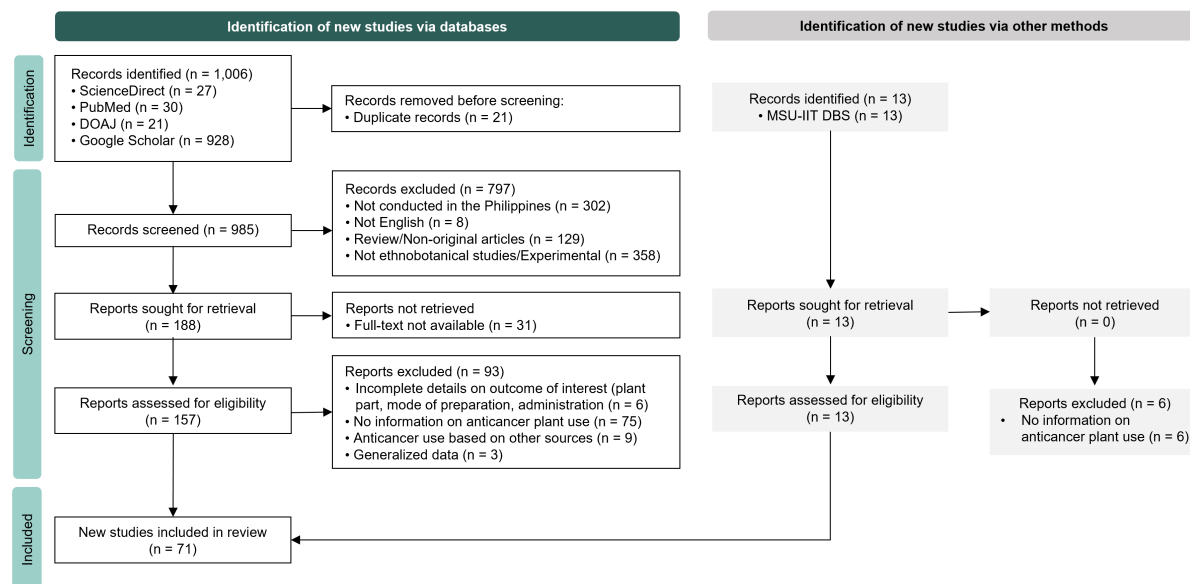


Figure 1. PRISMA flow diagram of the review on Philippine medicinal plants traditionally used as anticancer.

Search Strategy Plan and Optimization Process

In refining search strategies, an iterative process of trial and error was conducted to yield optimal results. To determine candidate search keywords, five known pertinent studies were searched on each data source. Terms found in the titles, abstracts, and other fields of the resulting articles were then selected based on commonness and relevance. These identified search terms were tallied and added to the fields of the 'Advanced Search' option of each source *i.e.*, ScienceDirect, PubMed, and Google Scholar. Boolean operators were used and drafts of the combination of the search queries were explored. Additional terms were determined from the results of these search queries and relevant limits in different fields of the search interface *i.e.*, titles, abstracts, body, all fields, etc. were applied. Moreover, wildcards were adjusted as needed to enhance search flexibility and account for variations in terminology. The final set of keywords optimized for the above-mentioned sources were as follows:

ScienceDirect

("Philippine medicinal plants" OR "ethnobotanical survey") AND ("Philippines" OR "medicinal plant" OR "interview" or "list of medicinal plant") OR ("herbal") OR ("plant")

Title, abstract, keywords: Philippines, medicinal, plant

PubMed

((Philippine medicinal plants[Title/Abstract]) OR (survey philippine medicinal plants[Text Word])) OR (Philippines ethnobotan*[Text Word]) OR (Philippine*, medicinal plant*, local communit*[Title/Abstract])

Google Scholar

Philippines, plants survey, OR interview, OR community, OR communities, OR Philippines, OR ethnobot* "medicinal plant" -assay

allintitle: Philippines medicinal plants -assay

DOAJ

"ethnobotan* Philippines"; Limit within results: (type) Keyword

Search within results:

cancer, anticancer, anti-cancer, antitumor, anti-tumor, neoplasm, bukol, kanser

(Manual scan for articles with s in structured formats that cannot be readily extracted as text)

The reviewers thoroughly accounted for all the included studies' definitions of "cancer". However, in traditional Philippine medicine, cancer is often referred to by various terms depending on the region and cultural context. While there may not be a direct equivalent to the biomedical term "cancer," local healers and traditional knowledge systems identify cancer through key symptoms and conditions such as: (1) **bukol** or "tumor," which refers to any lump or growth in the body, (2) **sakit sa**

laman or "disease of the flesh," describing persistent and worsening bodily pain, and (3) **pagpayat** or "wasting," indicating unexplained weight loss and physical deterioration. These descriptions help traditional healers identify potential cases of cancer through observable signs and symptoms rather than a single term equivalent to "cancer."

For the purpose of this review, the reviewers included the search term **bukol** and **kanser** (a vernacular spelling used in the Philippines) and did not include **sakit sa laman** and **pagpayat** since these terms may also be associated with other diseases, thus, equate to other uses. This will thereby allow to provide a more specific account of plants used for this particular disease and avoid vagueness. Moreover, the indigenous terms for cancer were also excluded since all of the included studies have been translated into either of the search terms before being published.

The search functionality of the Directory of Open Access Journals (DOAJ) differs from other databases. Due to its less advanced search capabilities, different combinations of limited terms and wildcard usage were explored. Only the search query described below was ultimately identified as most effective in retrieving relevant articles.

Additionally, unpublished ethnobotanical studies from the repository of MSU–IIT DBS were also retrieved. The search strategies of this review were developed to retrieve studies that generally inventoried plants that are traditionally used by local communities/IPs in the Philippines as herbal medicines. Directly searching for anticancer will eliminate other studies that focused on the inventory and not on the specific ethnomedicinal (anticancer) use of the plants. Moreover, some studies have tables in structured formats that cannot be readily extracted as text, hence the need to manually scan the reports considered. Table 1 shows the criteria for qualification and the rationale behind the inclusion of each criterion. This served as a guide on the eligibility of studies included in this review.

Table 1. Criteria for Qualification and Rationale

Criterion	Rationale
1. Studies written in English	Non-English articles create a comprehension barrier for the reviewers, thus compromising the accessibility, review process, and analysis
2. Studies conducted in the Philippines	Limiting the scope to the Philippines helps manage the complexity of the review process. Including studies from other countries would introduce a wide array of diverse contexts and practices, potentially complicating data synthesis and analysis
3. Primary qualitative research articles	Non-original, or those articles with information not collected <i>de novo</i> (e.g., reviews, editorials, commentaries) compromise the rigor of this review. It risks duplication and potential biases from secondary sources.
4. Studies that are relevant to ethnobotanical surveys; those that tally or inventory plants traditionally used as herbal medicine by local communities	Studies that are, for instance, experimental, focusing solely on phytochemical analysis, or pharmacological properties, are irrelevant in contributing data on traditional plant use practices
5. Studies with information on anticancer plant use	Excluding articles with no results on anticancer plant use maintains the focus on pertinent data, reducing noise and bias in the review
6. Studies with complete details on the outcomes of interest: plant's scientific name, plant part(s) used, and mode of preparation and administration	The scientific name is important for validating the plant species, while the plant part(s) used and mode of preparation and application are crucial for ensuring the reproducibility of traditional plant use. Different plant parts and preparation and application methods result in variations in therapeutic properties and their expression, respectively
7. Studies with accessible full-text articles	Inaccessible full-text articles are not useful for synthesizing all the data of interest, as the abstract alone typically does not include the tabulated data
8. Studies conducted at any time	No coverage dates were specified to comprehensively account for all studies, as traditional knowledge is timeless. This thereby allows for capturing changes and continuity in traditional plant knowledge and practices

This concept of eligibility criteria with rationale was adapted from Jay and Grath-Lone (2019) with slight modifications. While data extraction, other reasons for exclusion were noted, to be reflected in the PRISMA flow diagram.

Data Items

The following data were collected:

1. Report: Name of author/s, year of publication, and other elements for complete citation;
2. Study: plant species with anticancer claims (family, genus, species, local name, and common name), plant part(s) used, mode of preparation and application, claimants, and geographical location of claimants; and
3. Manual search: island, region, and province of the geographical location of the claimants of each study.

All data were tabulated and organized using Microsoft Excel. In cases where the same plant species in a single report has more than one entry on any of the categories (plant part used, mode of preparation and administration), data entry of such species on the taxonomic classification fields (family, scientific name, local name, and common name) will be repeated. However, upon sorting of data, this duplicate of entries of the same species in a single report will be eliminated so that it will not be counted as more than one from a single source, hence allowing accurate counts upon analysis.

Quality assessment

The assessment tool developed by Magtalas *et al.* (2023), which was specifically designed for ethnobotanical research, was adapted to evaluate the quality of included studies. The quality was rated as low, acceptable, or high based on the questions included in the tool, as shown in Table 2. However, it is important to note that the risk of bias in each study was not evaluated.

Table 2. Quality assessment tool used to evaluate the quality of included studies in this systematic review, developed by Magtalas *et al.* (2023).

Quality Assessment Tool	
Scoring:	
Fully compliant = 2 points	Total score:
Partially compliant = 1 point	17–20 = High quality
Not compliant = 0	11–16 = Regular quality
N/A = not applicable	0 – 10 = Low quality
1. Are the questions or objectives sufficiently described?	
2. Is the study design appropriate to answer the study question/s?	
3. Is the study area and population sufficiently described?	
4. Are the methods described in sufficient detail?	
5. Can the study be easily replicated?	
6. Is the sample size of informants sufficient or justified?	
7. Are the medicinal plants verified by a taxonomist?	
8. Did the paper provide appropriate descriptive and/or quantitative analysis?	
9. Are the results reported in sufficient detail?	
10. Do the results support the conclusion?	

The three authors, KLC, CGD, and MAJT independently reviewed the quality of each included study using the tool. Any disagreements in the evaluation were discussed by the three reviewers to reach a consensus. Moreover, this search strategy will be registered to PROSPERO, which is the international prospective register of systematic reviews

Taxonomy Verification

In the conduct of this review, several instances were encountered where the same plant species were referred to by different synonyms. To ensure consistency and accuracy, plant names were standardized using authoritative botanical databases such as World Flora Online (WFO) and Plants of the World Online (POWO), identifying accepted names and listing known synonyms. Additionally, the Quality Assessment Tool, presented in Table 2, includes the criterion: “7. Are the medicinal plants verified by a taxonomist?”, allowing only the inclusion of those studies where plant verification was conducted by a qualified taxonomist. These steps were implemented to minimize errors in plant identification and classification.

Data Presentation

The PRISMA flow diagram was used to guide the flow of the selection process which was generated using the R package and Shiny app developed by Haddaway *et al.* (2022). Data gathered from the included studies were presented in tabular form, sorted, and graphed using Microsoft Excel.

Limitations

The limitations of this study include its reliance on a systematic review methodology and the complex nature of cancer. In the Philippines, "cancer" is often referred to vaguely by traditional healers, who diagnose based on symptoms rather than confirmed medical diagnoses. This can lead to inaccuracies in identifying true cancer cases. Further limitations include potential biases in the reviewed studies and gaps in the existing literature. The scope of plant species covered may also be limited, potentially excluding lesser-known or newly discovered species. Additionally, the data may not fully account for regional and cultural variability in plant use and preparation methods, and the lack of standardized diagnostic criteria complicates comparisons across studies.

To address these limitations, future research should incorporate modern diagnostic tools and standardized criteria, expand geographical and cultural coverage, enhance documentation and verification of plant species, conduct primary research to minimize biases, and explore regional variations in traditional practices. These steps will help provide a more accurate and comprehensive understanding of medicinal plants in anticancer treatments and contribute to the development of effective therapies.

Results and Discussion

Identification, Screening, and Inclusion of Studies

A total of 1,006 records from databases and search engines were initially obtained, comprising 27 from ScienceDirect, 30 from PubMed, 21 from DOAJ, and 928 from Google Scholar. Additionally, 13 records were identified from MSU-IIT DBS. After screening and retrieval, with reasons for exclusion reflected in Figure 1, only 64 new studies via databases and 13 new studies using MSU-IIT DBS were included in the review, resulting in a total of 71 studies. Figure 2 shows the quality assessment results of the included studies using the tool developed by Magtalas *et al.* (2023).

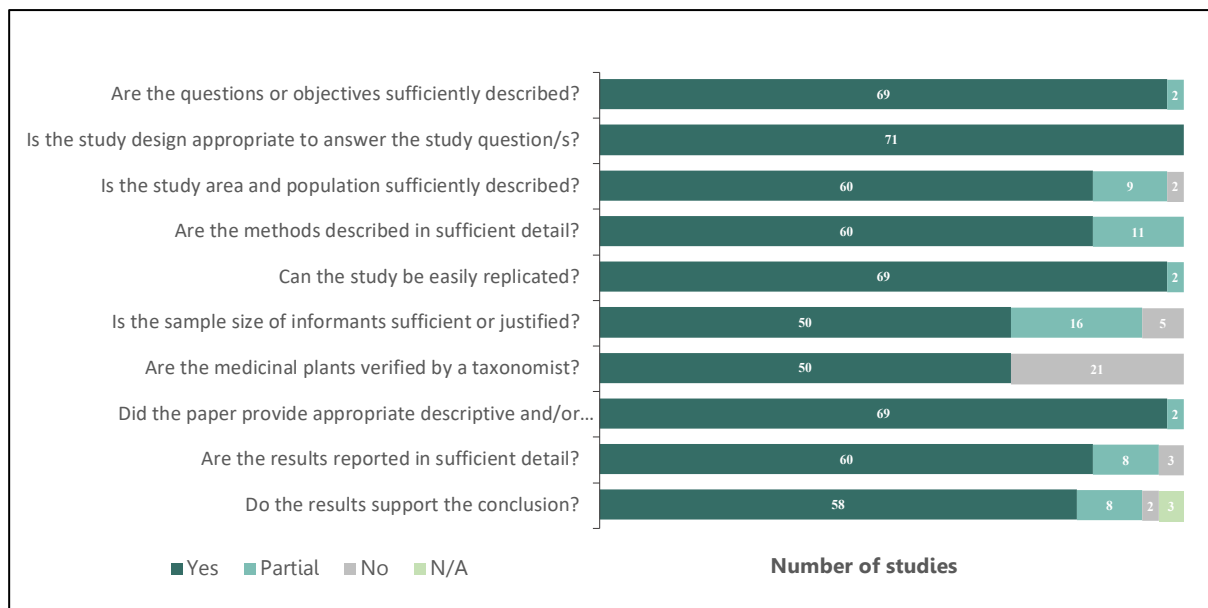


Figure 2. Quality assessment results of the new studies, with data on herbal plants used as anticancer in the Philippines, are included in this review.

Out of the 71 studies, 51, 18, and 2 records were identified as high, regular, and low-quality studies. A total of 2 records did not sufficiently describe the study area and population, five studies did not justify/suffice the sample size of the informants, the plants of 21 studies were not verified by a taxonomist, three of the reports did not present the results in sufficient detail, and the results of 2 studies were not able to support the conclusion.

In the context of record retrieval on herbal plants used as anticancer, only the study by Pucot and Demayo (2021) was identified which synthesized anticancer herbal plants in the Philippines, albeit limited to indigenous peoples of Mindanao. The current review seeks to outdo these limitations by providing a comprehensive synthesis not restricted to specific islands or ethnic groups in the Philippines, encompassing locals, ethnic groups, and indigenous peoples across the country.

Diversity of plant species used as anticancer in the Philippines

In this review, a species richness of 390 plants used as anticancer remedies was recorded, distributed across 145 genera and 68 families. Prominent families and genera are highlighted in the following sections.

Most common plant families and genera used as anticancer in the Philippines

Out of all the plants identified by claimants in studies with data on anticancer ethnobotanical use, the most common plant families and genera of the plant species cited in the included studies are reflected in Figure 3.

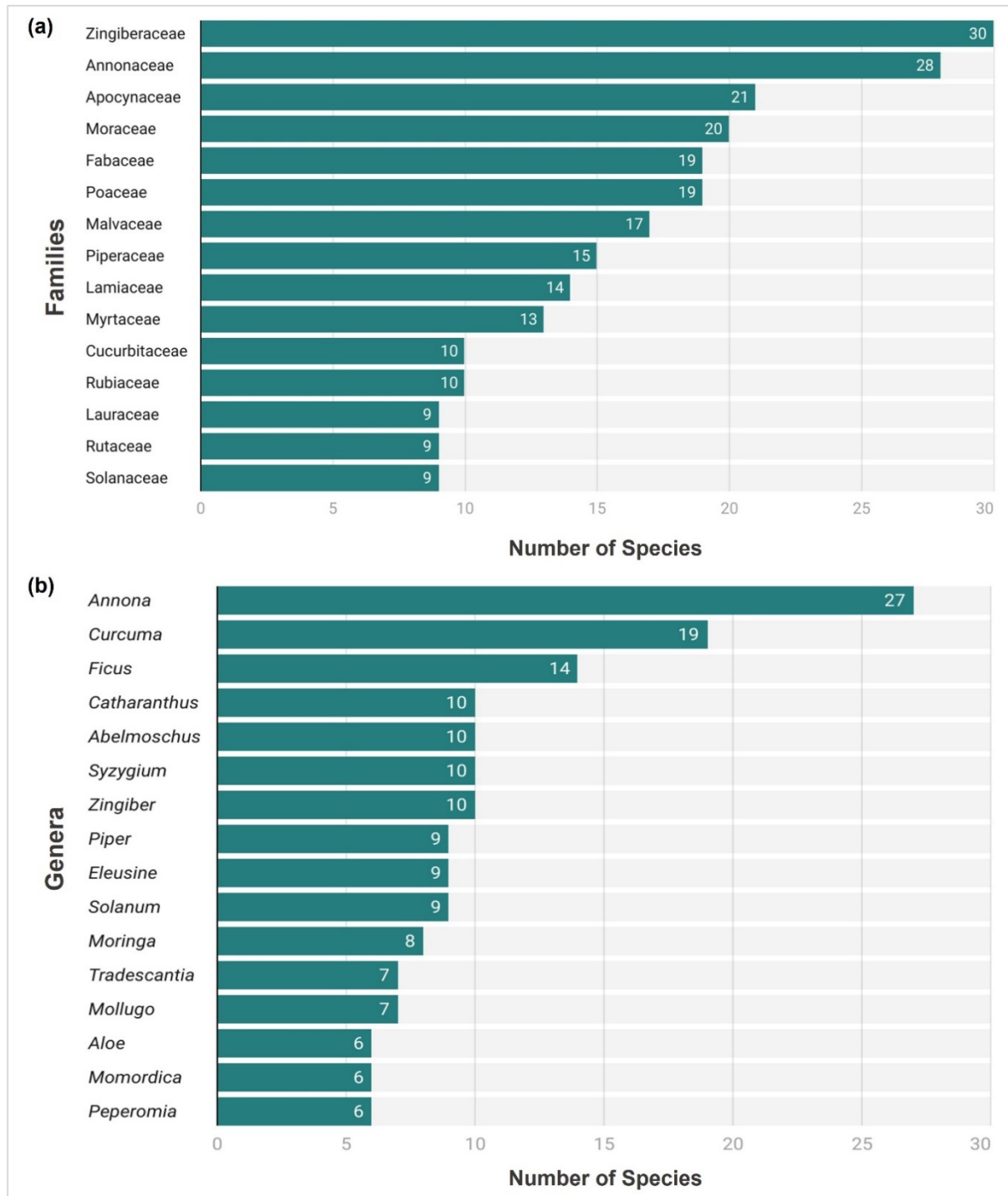


Figure 3. Most common plant (a) families and (b) genera of plant species used by claimants (ethnic groups/IPs, locals) in studies with data on herbal plants utilized as anticancer in the Philippines.

A total of 68 families, 145 genera, and 390 plant species in the Philippines were claimed to have anticancer properties, as reported by the studies included in this review. The most frequently cited families were Zingiberaceae (Ginger family; **Luya**)

(30 reports, 7.69%), Annonaceae (Custard Apple family; **Atis**) (28, 7.18%), Apocynaceae (Dogbane family; **Balong-balongan**) (21, 5.38%), Moraceae (Mulberry family; **Moras**) (20, 5.13%), Fabaceae and Poaceae (Legume/Pea and Grass family; Legumbres and **Damong-gamot**) (19 reports each, 4.87%), Malvaceae (Mallow family; **Malbas**) (17, 4.36%), Piperaceae (Pepper family; **Paminta**) (15, 3.85%), Lamiaceae (Mint family; **Mentha**) (14, 3.59%), Myrtaceae (Myrtle family; **Mirta**) (13, 3.33%), Cucurbitaceae and Rubiaceae (Gourd and Coffee family; **Upo** and **Kape**) (10 reports each, 2.56%), respectively, among others (Figure 3a).

Meanwhile, the genus *Annona* (27 reports, 6.92%) was the most frequently mentioned followed by the genus *Curcuma* (19 reports, 4.87%), *Ficus* (14 reports, 3.59%), *Catharanthus*, *Abelmoschus*, *Syzygium*, and *Zingiber* (10 reports each, 2.56%), *Piper*, *Eleusine*, and *Solanum* (9 reports each, 2.31%), and *Moringa* (8 reports, 2.05%) lead the highest percentages in terms of the commonness of use.

The family Zingiberaceae is endemic to the Philippines and is locally represented in 16 genera with approximately 100 species (Pelser *et al.* 2011). The traditional practice of using herbal remedies in the Philippines is attributed to the country's rich and diverse plant life, invigorated by its tropical climate. Wild species, such as those in the Zingiberaceae family, have become significant sources of natural health remedies. Due to their prevalence, these plants were likely initially utilized for various purposes, including herbal medicine, and have been observed to alleviate symptoms associated with cancer over time (Barbosa *et al.* 2021). Additionally, their popularity in herbal practices can be attributed to the characteristic aroma of Zingiberaceae plant species, which are staples in Filipino cuisine (Monteclaro *et al.* 2014). This familiarity, combined with ease of cultivation and availability in local markets, has led to their extensive traditional use among locals and ethnic groups across the country. Therefore, it can be hypothesized that the popularity of certain families and genera for anticancer use in the Philippines may be rooted in both cultural history and botanical properties such as familiarity and accessibility.

The traditional use of Zingiberaceae species is now scientifically supported by research showing that plants like *Curcuma longa* (turmeric) and *Zingiber officinale* (ginger) exhibit significant anticancer activity against malignant melanoma (B164A5 murine melanoma), with *Curcuma longa* showing higher proliferation and apoptosis effects than *Zingiber officinale* (Danciu *et al.* 2015). A more recent study revealed that the oleoresin from ginger rhizomes and curcumin from turmeric contain bioactive compounds, including (6)-gingerol (Kamaruddin *et al.* 2023), which inhibit cell proliferation, block cell cycle arrest, and induce apoptosis (Nachvak *et al.* 2023), mechanisms implicated in cancer development.

Similarly, the family Annonaceae, also endemic to the Philippines (Reteurma-Dioneda and Alejandro 2023), is distributed pantropically and is one of the largest pantropical families of lianas, shrubs, and trees (Handayani 2018). Likely, these plants were traditionally used due to their widespread distribution and significant role in tropical forest biodiversity as key habitat species (Erkens *et al.* 2023). Their fibrous bark and aromatic traits make them economically important as sources of essential oils (Cascaes *et al.* 2021). Traditional faith healers often use essential oils for their holistic approach to healing, focusing on relaxation and stress relief, a practice now widely known as aromatherapy (Halder *et al.* 2018; Bakkali *et al.* 2008). Additionally, plants within this family, particularly the genus *Annona*, are popular in the fruit market, being consumed raw or made into Filipino desserts, jams, beverages, and alternative syrups (Langenberger *et al.* 2008). This demand ensures their availability, presumably contributing to the prevalence of their ethnomedicinal properties.

Historically and in contemporary times, several plants from the Annonaceae family have been identified by indigenous knowledge as practical herbal remedies, often based on empirical observations of their efficacy in improving symptoms of diseases like cancer. Multiple studies validate these claims, showing that isolated compounds or crude extracts of *Annona* species exhibit anticancer activity (Dev and Joseph 2021). This activity is attributed to structurally diverse alkaloids, making them important pharmacological agents against cancer. One mechanism involves acetogenins from *Annona* plants, which have cytotoxic effects on cancer cells by limiting ATP synthesis (Das Chagas Lima *et al.* 2022). Other reports highlight the significant anticancer properties of Annonaceae species, emphasizing fatty acids (Chen *et al.* 2016), peptides (Marrero *et al.* 2023), and aporphine alkaloids (Suresh *et al.* 2012) as key compounds.

Moreover, species from the family Apocynaceae were typically used in Philippine folk medicine as an anti-diabetic remedy (Islam and Lucky 2019). However, research has shown that plants from this family, especially those from the genus *Catharanthus*, contain bioactive chemicals with anticancer properties, including alkaloids like vinblastine and vincristine (Quo and De Luca 2019). These alkaloids are now used in modern medicine as chemotherapeutic drugs because they inhibit cell division in cancer cells (Alam *et al.* 2017), providing scientific support for their traditional use in cancer treatment.

As a predominantly religious country, many Filipinos perceive illnesses as challenges from a higher power (Ting *et al.* 2021). Consequently, any recovery or improvement of symptoms associated with a chronic disease like cancer is often seen as miraculous. Traditional treatment practices in the Philippines, such as **hilot** (folk massage) and **albularyo** (herbal medicine practitioner), rely on a holistic approach to health and wellness, balancing spiritual and physical components (Ang and Montiel 2019). **Albularyos** are major providers of healthcare in rural regions due to tradition and economic constraints. Their skills, often lacking formal education, are based on and refined through handed-down customs and legends (Abad *et al.* 2014). For chronic conditions, including those thought to be linked to cancer, plants from families like Moraceae (mulberry family) and genera like *Ficus* (fig) are commonly used in healing practices, as figs are believed to have both physical and spiritual healing properties (Murugesu *et al.* 2021). Recent studies have provided evidence supporting the anticancer potential of these plants (Imran *et al.* 2010).

Plant part used, mode of preparation, and mode of administration of herbal plants used as anticancer in the Philippines

Figure 4 illustrates the most frequently used plant parts, preparation methods, and modes of administration for herbal plants utilized by locals, ethnic groups, and indigenous peoples in the Philippines for anticancer treatments.

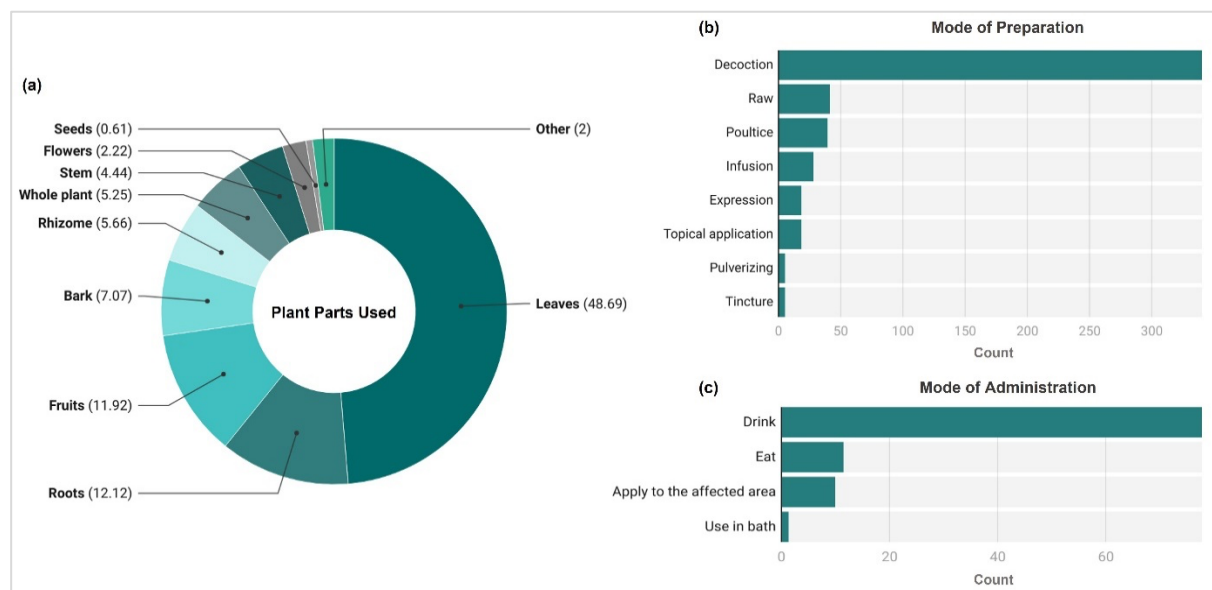


Figure 4. Most frequently used plant part (a), mode of preparation (b), and mode of administration (c) of herbal plants used by locals, ethnic groups, and indigenous peoples as anticancer in the Philippines.

Respective to their commonness of use, the leaves (241 records, 48.69%), roots (60 records, 12.12%), fruits (59 records, 11.92%), bark (35 records, 7.07%), rhizome (28 records, 5.66%), whole plant (26 records, 5.25%), stem (22 records, 4.44%), flowers (11 records, 2.22%), seeds (3 records, 0.61%), bulb, sap, shoots, and trunk (2 records each, 0.40%), branches and corms (1 record each, 0.20%), were the plant parts used for the therapeutic preparation of herbal plants against cancer.

Decoction of plant part(s) (340 records, 68.83%) was the most common mode of preparation followed by preparing it raw (41 records, 8.30%), as poultice (39 records, 7.89%), via infusion (28 records, 5.67%), expression and topical application (18 records each, 3.64%), and pulverizing and tincture (5 records each, 1.01%). Moreover, administering these herbal preparations by drinking (378 records, 77.62%), eating (55 records, 11.29%), direct application to the affected area (48 records, 9.86%), and using it as a wash (6 records, 1.23%) were the modes recorded across all the studies included.

The widespread use of leaves in herbal practices can be attributed to their ease of harvest and their symbolic representation as the most abundant and accessible part of the plant. Given their role as the main photosynthetic botanical organ, they are also considered the most potent, typically containing high amounts of bioactive compounds that have medicinal effects (Passalacqua *et al.* 2007). Consistent with the findings from other studies (Morilla *et al.* 2014, Cordero and Alejandro 2021, Rubio and Naïve 2018), our results show that preparing leaves via decoction has been most commonly used to create anticancer-related medicinal formulations. Decoction is a traditional technique that employs boiling to extract the active components of a given plant source. This procedure is thought to ensure a high rate of extraction since boiling encourages the breakage of the plant cell walls, allowing the active ingredients to be channeled into the boiler's surrounding water (Jha and Sit 2022). This scientific rationale might be a jargon to some traditional practitioners, so, the common use of leaf decoction likely stems from its accessibility, affordability, and cultural acceptance, particularly in rural areas where traditional

healing practices are prevalent. This preparation renders it a practical choice for providing accessible healthcare to individuals in geographically isolated and disadvantaged areas. Its simplicity and effectiveness make it suitable for use in communities where access to modern medical facilities may be limited. Also, a majority of bioactive compounds associated with anticancer effects are water-soluble (Izevbigie 2003), hence, they dissolve quickly in hot water during the decoction process which reinforces its use preference.

Moreover, the availability of leaves throughout the year in tropical countries like the Philippines further supports the practicality of leaf decoction as a medicinal preparation method. Leaves are renewable plant tissues that can be harvested without harming the overall health of the plant (Krupanidhi *et al.* 2017), ensuring a sustainable supply of medicinal sources. In contrast, the least used plant parts, such as bulbs, sap, shoots, trunks, branches, and corms, might be less favored due to the complexity of their preparation and the perception that they contain fewer bioactive compounds compared to leaves and roots.

Raw preparations, poultices, and infusions, although less common, reflect diverse cultural practices in herbal medicine. These methods highlight the adaptability of traditional healing practices to local resources and cultural contexts. Across all studies included, the various modes of administering herbal preparations—drinking, eating, direct application, and using as a wash—demonstrate the integration of these remedies into daily life, embodying cultural beliefs and rituals surrounding health and healing. These methods not only facilitate the delivery of therapeutic compounds but also serve as tangible expressions of indigenous knowledge, bridging traditional and modern healthcare systems.

In general, the use of plant parts and preparation methods aligns with the ecological knowledge and resource management practices of local and indigenous communities. The sustainable harvesting of leaves and other plant parts ensures the preservation of plant species and their continued availability for future generations. This practice also highlights the importance of conserving biodiversity and maintaining healthy ecosystems, which is crucial for the ongoing provision of medicinal plants. Thus, traditional knowledge plays a crucial role in the sustainable use and conservation of plant resources, showing the interconnectedness of cultural heritage and environmental stewardship.

To highlight the most significant species, Figure 5 presents the five most commonly used herbal plant species for anticancer treatments in the Philippines, detailing the plant parts utilized and their preparation methods.

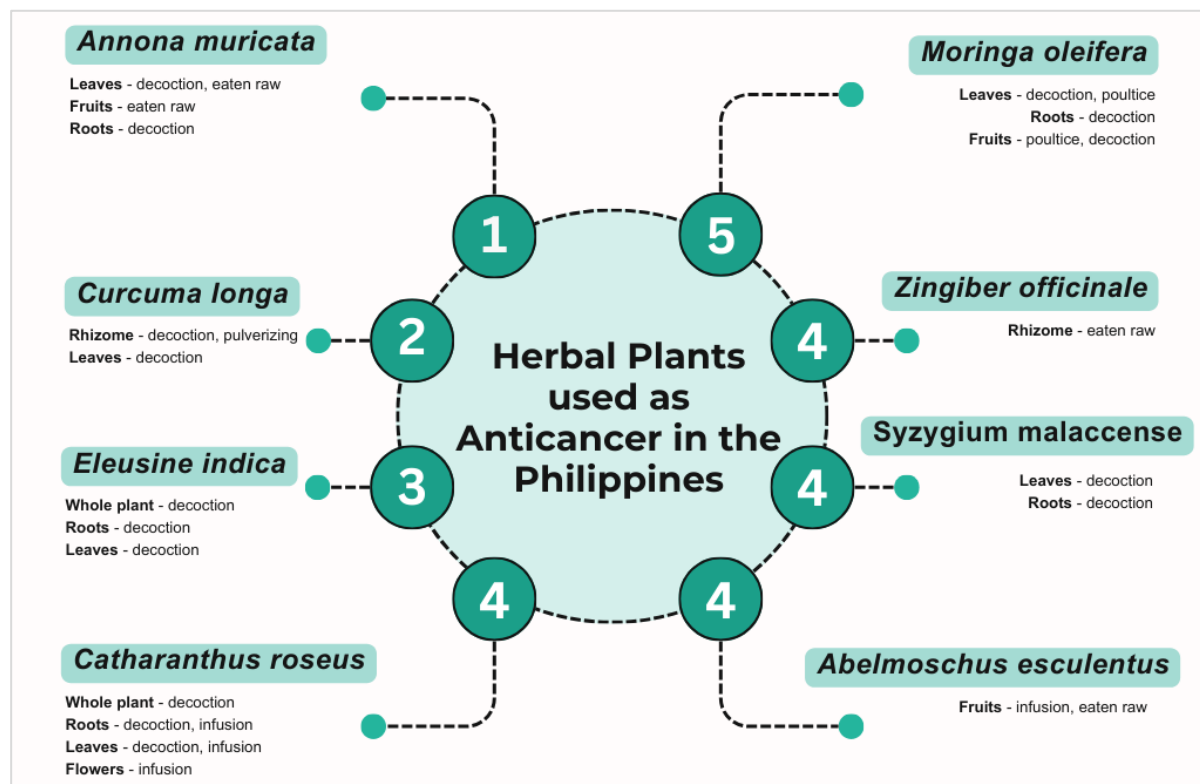


Figure 5. Top 5 most commonly used herbal plant species for anticancer in the Philippines and their plant part used and mode of preparation (with reference to the reports included in this review).

Annona muricata (26 reports) was the most commonly mentioned plant species used by locals, ethnic groups, and IPs as an anticancer in the Philippines. Its leaves, fruits, and roots are used and prepared raw or via decoction. This was followed by *Curcuma longa* with 16 reported anticancer use by pulverizing or decoction of its rhizome and leaves and *Eleusine indica* with 12 reports prepared using the whole plant, its roots, or leaves via decoction. Additionally, ten reports mentioned *Catharanthus roseus* of which the whole plant, roots, leaves, or flowers are subject to decoction or infusion for anticancer use, along with the fruits of *Abelmoschus esculentus* which are eaten raw, the leaves and roots of *Syzygium malaccense* prepared via decoction, and the rhizome of *Zingiber officinale* which is eaten raw. *Moringa oleifera* was also mentioned in 8 reports that cited the use of its leaves, roots, or fruits to prepare an anticancer therapeutic poultice or decoction.

Annona muricata thrives in tropical and subtropical regions and holds cultural significance in many countries where it grows, including the Philippines where it is locally known as *Guyabano*. It is considered not only as a nutritious fruit but also as a medicinal plant. Its medicinal importance is so extensive that even the Philippines' main body of science and technology, the Department of Science and Technology (DOST), has developed and promoted *Guyabano* supplements and tea (Department of Science and Technology 2013). Filipino cultural traditions reflect a longstanding belief in the healing properties of this plant. Aside from its suitability to the palette of Filipinos due to the sweet and sour taste of its fruit, the recognition of its ethnobotanical importance has also been sustained due to numerous anecdotal accounts supporting its efficacy in alleviating disease symptoms (Coria-Tellez *et al.* 2018). While multiple studies have demonstrated its anticancer properties through apoptosis induction mechanisms, (Silihe *et al.* 2023, Pieme *et al.* 2014, Yajid *et al.* 2018), health professionals caution against relying solely on anecdotal claims due to the lack of clinical research involving human subjects to substantiate these effects.

Other most commonly used plant species for anticancer purposes, such as *Curcuma longa* (turmeric), *Eleusine indica* (goosegrass), and *Catharanthus roseus* (Madagascar periwinkle), are likely chosen based also on accessibility and traditional familiarity. Studies supporting the anticancer claims of these species are increasing. *Curcuma longa*, for example, contains curcumin which has been extensively studied for its ability to modulate multiple signaling pathways involved in cancer development and progression (Giordano and Tommonaro 2019) while *Catharanthus roseus* contains vinblastine and vincristine which induce cell death in rapidly dividing cancer cells (Qu *et al.* 2019). Additionally, *Abelmoschus esculentus*, *Syzygium malaccense*, and *Zingiber officinale* were found to have bioactive compounds with antioxidant and anti-inflammatory properties (Xiong *et al.* 2021, Mendes *et al.* 2021, Zammel *et al.* 2021), contributing to their potential anticancer effects.

Moringa oleifera, known as the "miracle tree," is renowned for its nutritional value and antioxidant properties (Islam *et al.* 2021). Widely promoted as a healthy dietary option in the Philippines, *Moringa* leaves are often cooked as viand options and tagged as 'healthy' in various media platforms. Its sustained use in alternative medicine for preventing diseases and alleviating symptoms, including those resembling cancer, reflects the cultural belief in its therapeutic benefits.

It is worth considering that people's faith in herbal remedies might also be due to the placebo effect. Since many people believe the available remedies and these practices were already sustained for generations, a health-seeking individual might perceive improvement in their condition without an actual therapeutic value. This notion presents the necessity of scientific validation of these traditional practices, especially in complex diseases like cancer, where determining symptoms is often ambiguous.

Geographical Distribution of Herbal Plants' Anticancer Use Claimants in the Philippines

As an archipelagic country, the Philippines hosts a very diverse structure of cultures and ecosystems which is evident not only in its landscapes but also in the varied ways in which its people engage with their natural environment. One such interaction is the traditional utilization of plants as medicine. From the Cordilleran tribes of Luzon to the Lumads of Mindanao, Filipinos have traditionally depended on plants for basic healthcare, including the prevention and treatment of chronic illnesses such as cancer. These activities not only illustrate Filipino culture's inventiveness but also emphasize the need to maintain indigenous knowledge in a fast-changing world. In the context of anticancer ethnobotanical claims, Figure 6 summarizes the geographical distribution of claimants in the studies included in this review.

A total of 21 reports with data on anticancer ethnobotanical use were obtained in Luzon, 10 in Visayas, and 40 in Mindanao, claimed by both locals and ethnic groups/IPs. Mindanao (56.34%) has the highest records attained followed by Luzon (29.58%) and Visayas (14.08%), respectively. Luzon's reported claimants were its locals, along with the ethnic groups **Kankanaeys**, **Sambal-Bolinao**, **Ilongot-Egongot**, **Aytas**, and **Tadyawan Mangyans**, while Visayas' claimants were its locals and ethnic groups including the **Ati** tribes and **Panay-Bukidnon**. The communities that contributed to Mindanao having the highest claims of anticancer use include its' locals, the Visayans, the ethnic **Subanen** tribe, **Bajaus**, **Chavacanos**, **Tausugs**,

Yakans, Maranaos, Higaonons, Manobo tribe, Talaandig tribe, Tagabawa tribe, B'laan tribe, T'bolis, Mamanwas, and Sama Tabawans.

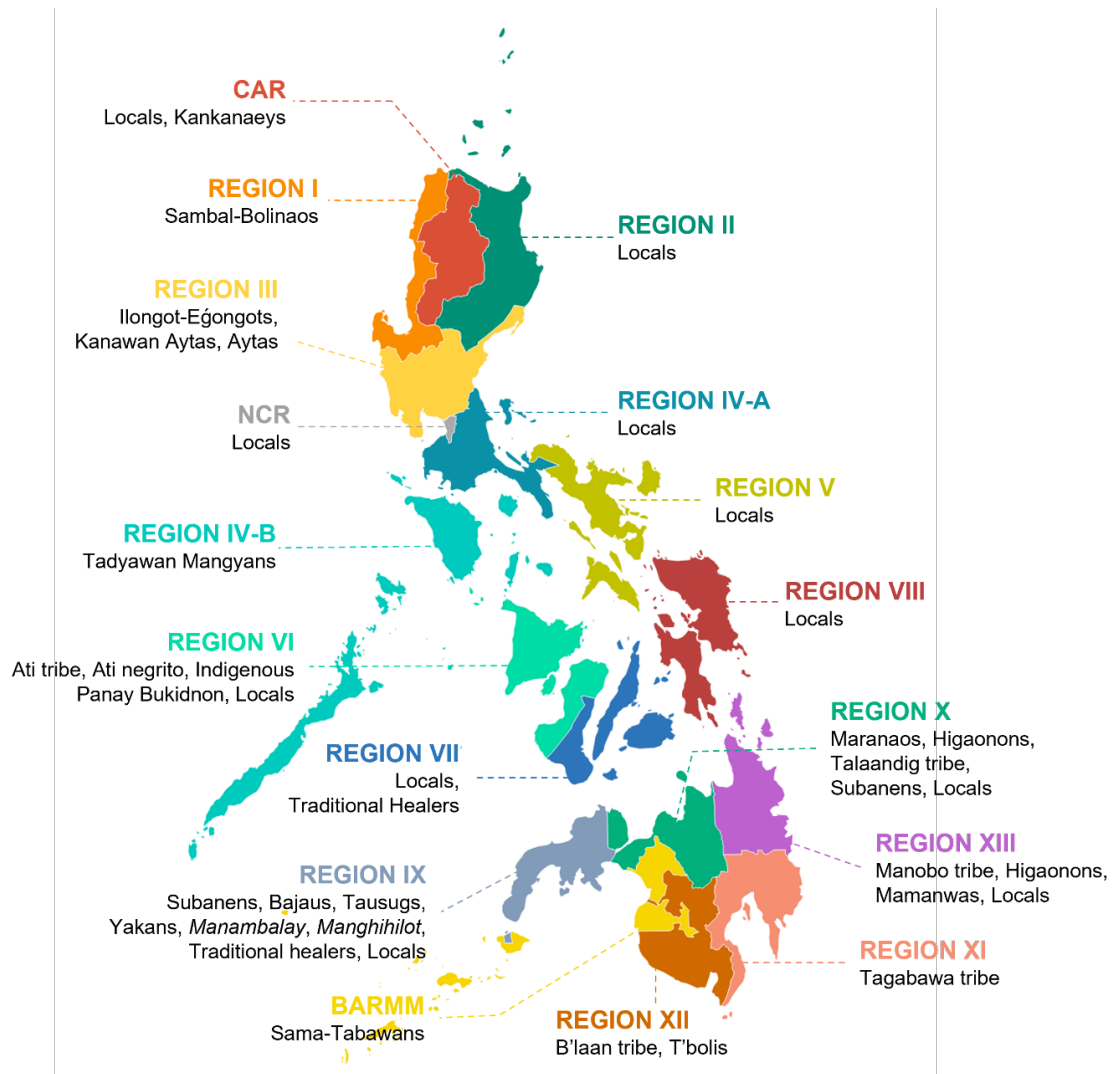


Figure 6. Claimants (ethnic groups/IPs, locals) of the studies with data on herbal plants used as anticancer in the Philippines, by region.

Region X (Northern Mindanao) had the highest records included in this review, followed by Region XIII (Caraga), and Region IX (Zamboanga Peninsula). The prevalence of ethnobotanical surveys in these regions may be attributed to their high concentration of traditional communities, particularly indigenous peoples (Huesca 2016), who possess valuable knowledge about local medicinal flora. Most of these groups are often concentrated in secluded and underserved areas, making it difficult for residents to access medical treatment and assistance from healthcare professionals due to either physical limitations or financial constraints. Consequently, many individuals find it challenging to afford to buy medicines and visit clinics or hospitals, hence, traditional medicine becomes a primary recourse for addressing immediate health concerns and alleviating diseases (Mata 2004). Additionally, the diverse geographical landscapes of these areas within Mindanao, including mountains, forests, and coastal regions, offer rich biodiversity (McDoom and Gisselquist 2016) and potential for discovering new herbal remedies.

In the context of research, this raises interesting questions about research priorities and resource allocation. Mindanao's dominance in research output may be attributed to its vast biodiversity and the presence of numerous indigenous communities with rich herbal traditions. Additionally, factors such as accessibility, funding, and collaboration with local communities may have influenced the distribution of research efforts across regions. However, it's crucial to recognize that the quantity of studies does not necessarily correlate with the richness of traditional knowledge on anticancer ethnobotanical use present in each region. The list of herbal plants traditionally used as anticancer in the Philippines are synthesized in Table 3.

Table 3. List of herbal plants traditionally used by locals, ethnic groups, and indigenous peoples of the Philippines as anticancer

Family	Scientific Name	Common Name	Local Name	Plant Part/s Used	Mode of Preparation	Administration	Claimants	Region	Author/s
Acanthaceae	<i>Andrographis paniculata</i> (Burm. f.) Nees	Aluy	Serpentina	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Andrographis paniculata</i> (Burm. f.) Nees	King of bitters	Sinta	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Andrographis paniculata</i> (Burm. f.) Nees	King of bitters	Sinta	Leaves	Decoction	Drink the decoction once to thrice a day or as needed (3-5 glasses)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Andrographis paniculata</i> (Burm.f.) Nees	King of bitters	Sinta	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Amaranthaceae	<i>Amaranthus</i> sp.	Amaranth	Kolitis	Leaves	Decoction	Drink the decoction	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
Anacardiaceae	<i>Dracontomelon dao</i> (BLANCO) Merr. & Rolfe	Pacific walnut	Dao	Bark	Decoction	Drink the decoction	Locals of Tagmamarkay, Agusan del Norte	Region XIII (Caraga)	Peña <i>et al.</i> (2019)
	<i>Mangifera indica</i> L.	Mango	Mangga	Bark	Decoction	Drink the decoction	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Annonaceae	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Locals of Kabayan, Benguet Province	CAR	Balangcod and Balangcod (2018)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Kankanaeys of Kibungan, Benguet province	CAR	Bersamin <i>et al.</i> (2021)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Locals of Bayabas, Sablan, Benguet Province	CAR	Balangcod and Balangcod (2015)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Decoction of leaves is taken in as tea	Indigenous peoples of Tublay, Benguet	CAR	Dcotor and Manuel (2014)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Subtribes of Lower Kalinga Province	CAR	Quesada and Ammakiw (n.d.)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Annona muricata</i> L.	Soursop	Banaba / Guyabano	Leaves	Decoction	Drink the decoction	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)

<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Ati negrito (Guimaras Island)	Region VI (Western Visayas)	Ong and Kim (2014)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Use 7 leaves and serve as water, drink thrice a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
<i>Annona muricata</i> L.	Soursop	Siko Carabao	Leaves	Decoction	Drink the decoction	Traditional healers in Southwest Cebu	Region VII (Central Visayas)	Del Fiero and Nolasco (2013)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest Reserve, Alcoy and Cantabaco Forest, Toledo	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
<i>Annona muricata</i> L.	Soursop	Sabana (Chav) / Labanos (Bajau) / Labana (Subanen)	Leaves	Decoction	Boil 7 leaves in a glassful of water, then drink	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
<i>Annona muricata</i> L.	Soursop	Guyabano	Fruit	Eaten raw	Eat raw fruit of the plant	Muslim Maranaos in Iligan City	Region X (Northern Mindanao)	Olowa and Demayo (2015)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao)	Odchimar <i>et al.</i> (2017)
<i>Annona muricata</i> L.	Soursop	Labana	Leaves	Decoction	Drink the decoction	Locals of Mt. Malindang	Region X (Northern Mindanao)	Arances <i>et al.</i> (2004)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Tagabawa tribe of Brgy. Jose Rizal, Sta. Cruz, Davao del Sur	Region XI (Davao Region)	Waay-Juico <i>et al.</i> (2018)
<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Drink the decoction	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
<i>Annona muricata</i> L.	Soursop	Guyabano	Fruit	Eaten raw	Eat raw fruit of the plant once or twice	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)

						a week or as needed			
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Boiled with water and served as tea	Locals (both non-Higaonon and Higaonon) of Sitio Lomboyan, Barangay Guinabsan, Buenavista, Agusan del Norte	Region XIII (Caraga)	Omac <i>et al.</i> (2021)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Fruit	Eaten raw	Eat raw fruit	Indigenous Communities in Esperanza, Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Annona muricata</i> L.	Soursop	Guyabano	Leaves	Decoction	Decoction of leaves and then drink	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Friesodielsia latifolia</i> (Hook.f. & Thomson) Steenis	Mhemot balu	Mhemot balu	Roots	Decoction	Boil 5-10 inches roots in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
Apiaceae	<i>Angelica keiskei</i> (Miq.) Koidz	Tomorrow's leaf	Ashitaba	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Hydrocotyle vulgaris</i> L.	Pennywort	Gotu kola	Leaves	Eaten raw	Fresh leaves are taken orally	Ilongot-Egongot Community of Bayanihan, Maria Aurora, Aurora	Region III (Central Luzon)	Balberona <i>et al.</i> (2018)
	<i>Daucus carota</i> L.	Carrot	Karot	Roots	Eaten	Eat taproot as viand or as it is	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Centella abbreviata</i> (A. Rich.) Nannf	Spadeleaf	Soro-soro	Leaves	Decoction	Drink the decoction	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)
	<i>Apium graveolens</i> L.	Celery	Seleri	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Apocynaceae	<i>Rauvolfia serpentina</i> Benth. ex Kurz.	Indian snakeroot	Ulilikang-dagat	Leaves	Decoction	Drink the decoction	Locals of Manila	NCR (National Capital Region)	Madaleno (2017)
	<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Infusion	Add leaves in hot water and drink	Locals of Batan and Sabtang Islands	Region II (Cagayan Valley)	Raterta <i>et al.</i> (2014)
	<i>Tabernaemontana pandacaqui</i> Lam.	Banana bush	Pandacaqui	Fruits	Mechanical extraction	Crush to collect resin or Pass thru flame, triturate, drink 3x a day	Aetas of Sitio Parapal Hermosa Bataan	Region III (Central Luzon)	Pablo (2019)

<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Decoction	Drink the decoction	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Flower	Infusion	Add flower in hot water and drink	Ati tribe in Malay, Aklan	Region VI (Western Visayas)	Cordero <i>et al.</i> (2020)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Pulverizing	Powder dried leaves and take as pill	Ati negrito (Guimaras Island)	Region VI (Western Visayas)	Ong and Kim (2014)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Decoction	Use 7 leaves and serve as water	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Kumintang	Roots	Decoction	Drink the decoction	Locals of San Fernando, Cebu	Region VII (Central Visayas)	Miano <i>et al.</i> (2011)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Whole plant	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
<i>Catharanthus roseus</i> (L.)	Madagascar periwinkle	Rosas de baybayon	Leaves	Decoction	Drink the decoction	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
<i>Catharanthus roseus</i> L.	Madagascar periwinkle	Tallang-tallang	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARM	Lukman (2023)
<i>Alstonia scholaris</i> (L.)	Devil's tree	Malogatas	Trunk	Decoction	Boil 10 inches long and 5 inches wide bark in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
<i>Asclepias curassavica</i> L.	Tropical milkweed	Gapas-apas	Roots	Decoction	Boil with water, drink as often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
<i>Voacanga globosa</i> (Blanco) Merr.	Bayag-usa	Bayag-usa	Roots, Leaves	Decoction	Drink the decoction	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)
<i>Hoya</i> sp.	Wax plant	Wax plant	Leaves	Decoction	Drink the decoction	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)
<i>Allamanda cathartica</i> L.	Golden trumpet	Allamanda	Leaves	Decoction	Drink the decoction	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
<i>Anodendron borneense</i> (King & Gamble) D.J.Middleton	Himag / Lunas tag-uli	Lunas tag-uli	Sap	Drink raw	Drink stem sap once a day or as needed	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
<i>Anodendron borneense</i> (King&Gamble) D.J.Middleton	Bornean Anodendron	Himag / Lunas tag-uli	Stem	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)

	<i>Tabernaemontana pandacaqui</i> Poir.	Banana bush	Kinakan Kangag	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Plumeria acuminata</i> Aiton	Pagoda tree	Kalachuchi	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Araceae	<i>Colocasia esculenta</i> (L.) Schott	Taro	Gabi	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Colocasia esculenta</i>	Taro	Taro	Leaves	Decoction	Drink the decoction	Meranao people of Marawi City	BARMM	Omar <i>et al.</i> (2024)
	<i>Colocasia esculenta</i> (L.) Schott	Taro	Gabi	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Colocasia esculenta</i> (L.) Schott	Taro	Gabi	Leaves	Decoction	Drink the decoction	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
Araliaceae	<i>Osmoxylon diversifolium</i>	False aralia	Gulo-ulo	Leaves	Poultice	Slightly pound the leaves, add little salt, wrap with a banana leaf, and heat over low fire for few minutes. Apply on the area.	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Panax ginseng</i> C.A. Meyer	Asian ginseng	Ginseng	Leaves	Decoction	Drink the decoction	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
Arecaeae	<i>Areca catechu</i> L.	Areca nut palm	Maan	Areca catechu	Fruit	Poultice	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Areca catechu</i> L.	Areca nut palm	Huling-huling	Areca catechu	Roots	Decoction	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Areca catechu</i> L.	Areca nut palm	Huling-huling	Areca catechu	Roots	Decoction	Indigenous Communities in Esperanza, Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Aristolochiaceae	<i>Thottea affinis</i> (Planch. ex Rolfe) ined.	Salimbagat	Salimbagat	Leaves	Decoction	Drink the decoction once a day or as needed (3-5 glasses)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Asphodelaceae	<i>Aloe vera</i> (L.) Burm.f	Aloe vera	Sabila	Leaves	Poultice	Fresh leaves are applied as poultice	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Aloe vera</i> (L.) Burm.f	Aloe vera	Aloe vera	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Aloe barbadensis</i> M. (Syn. <i>Aloe vera</i> (L.) Burm.f)	Aloe vera	Aloe vera	Leaves	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)

							(Chavacano, Bajau, Subanen)		
	<i>Aloe vera</i> (L.) Burm.f	Aloe vera	Sabila	Leaves	Topical application	Extract the juice and apply to the affected area	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Aloe vera</i> (L.) Burm.f	Aloe vera	Sabila	Leaves	Poultice	Extract the juice and apply to the affected area	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Aloe vera</i> (L.) Burm.f.	Aloe vera	Sabila	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Asteraceae	<i>Blumea balsamifera</i> (Linn.) DC.	Blumea camphor	Gabon	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest Reserve, Alcoy and Cantabaco Forest, Toledo	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)
	<i>Blumea balsamifera</i> (Linn.) DC.	Blumea camphor	Sambong	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
	<i>Tridax procumbens</i> L.	Coat buttons	Pang-pang	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Tridax procumbens</i> L.	Coat buttons	Pang-pang	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Tridax procumbens</i> L.	Coat buttons	Pang-pang	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
	<i>Artemisia vulgaris</i> L.	Mugwort	Damong maria	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Basellaceae	<i>Basella rubra</i> L.	Malabar spinach	Alugbati	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Basella rubra</i> L.	Malabar spinach	Alugbati	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Basella rubra</i> L.	Malabar spinach	Alugbati	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
Bignoniaceae	<i>Crescentia cujete</i> L.	Calabash tree	Miracle fruit	Fruit	Expression	Drink the fruit juice	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Radermachera</i> sp.	China doll plant	Phelobenayan	Roots	Decoction	Boil 5-10 inches roots in an ample amount of water,	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)

						drink 1/2 glass often			
	<i>Crescentia cujete</i> L.	Calabash tree	Miracle fruit	Fruit	Decoction	Drink the decoction	Traditional practitioners in Ramon Magsaysay, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Morilla and Demayo (2019)
Boraginaceae	<i>Ehretia microphylla</i> Lam.	Wild tea	Tsaang gubat	Leaves	Infusion	Heating, internal route of administration	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Cordia subcordata</i> Lam.	Cordia subcordata	Baloh	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Carmona retusa</i> (Vahl.) Masam	Fukien tea tree	Suntih	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
Bromeliaceae	<i>Ananas comosus</i> (L.) Merr.	Pineapple	Pinya	Fruit	Eaten raw	Eat raw fruits	Ayta from Porac, Pampanga	Region III (Central Luzon)	Ragragio <i>et al.</i> (2013)
	<i>Ananas comosus</i> (L.) Merr.	Pineapple	Pinya	Fruit	Eaten raw	Internal administration route	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Ananas comosus</i> (L.) Merr.	Pineapple	Pinya	Fruit	Eaten raw	Eat raw fruits	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Ananas comosus</i> (L.) Merr.	Pineapple	Pinya	Fruit	Eaten raw	Eat fresh fruit directly once to thrice a day or as needed (1-3 slices)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Burseraceae	<i>Garuga floribunda</i> Desne.	Indian Garuga	B'lluh	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
Calophyllaceae	<i>Calophyllum blancoi</i> Planch. & Triana.	Philippine Calophyllum	Bitaoag	Bark	Topical application	Moisten a piece of cloth with the sap of the bark and applied to the affected area	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Calophyllum blancoi</i> Planch. & Triana.	Philippine Calophyllum	Bitaoag	Bark	Poultice	Moisten a piece of cloth with the sap of the bark and applied to the affected area	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Campanulaceae	<i>Hippobroma longiflora</i> (L.)G.Don	Star of Bethlehem	Star flower	Fruit	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Cannaceae	<i>Canna indica</i> L.	Indian Shot	Balisung-song	Leaves	Maceration	Maceration	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Canna indica</i> L.	Indian Shot	Balisung-song	Leaves	Maceration	Maceration	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
Caricaceae	<i>Carica papaya</i> L.	Melon tree	Papaya	Leaves	Decoction	Drink the decoction	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)

	<i>Carica papaya</i> L.	Papaya	Kapayas	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
Celastraceae	<i>Salacia korthalsiana</i>	Liana	Polipog	Roots	Decoction	Drink the decoction (1 glass)	Locals of Northern Samar	Region VIII (Eastern Visayas)	Vicencio and Somoray (2023)
	<i>Gymnosporia</i> spp.	Spike thorn	Leget	Roots	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARM	Lukman (2023)
Clusiaceae	<i>Garcinia mangostana</i> L.	Mangosteen	Mangostan	Fruit	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Garcinia mangostana</i> L.	Mangosteen	Mangostan	Fruit	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
Combretaceae	<i>Terminalia catappa</i> L.	Tropical almond	Talisay	Leaves	Topical application	Leaves mixed with oil are rubbed onto body parts		Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
Commelinaceae	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Leaves	Decoction	Drink the decoction	Maranaos of Kapai, Lanao del Sur	Region X (Northern Mindanao)	Mabuay (2015)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Whole plant	Infusion	Drink the infusion	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Whole plant	Infusion	Drink the infusion	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Tradescantia spathacea</i> (L.) Sw.	Oyster plant	Bangka-bangkaan	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
Compositae	<i>Gynura procumbens</i> (Lour.) Merr.	Longevity spinach / Sambung	Ashitaba	Leaves	Eaten raw	Eat raw leaves of the plant	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)
	<i>Artemisia vulgaris</i> Linn.	Mugwort	Hilbas	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest Reserve, Alcoy and Cantabaco Forest, Toledo	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)

Convolvulaceae	<i>Jacquemontia paniculata</i> (Burm. F.) Hallier f.	Mexican bluebell vine	Nundol-bundol	Bark	Decoction	Drink the decoction	Higaonons of Esperanza, Agusan del Sur	Region XIII (Caraga)	Garganera (2015)
Crassulaceae	<i>Kalanchoe pinnata</i> (Lam.) Pers	Miracle plant	Katakataka	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
Cucurbitaceae	<i>Momordica charantia</i> Linn.	Bitter gourd	Ampalaya	Leaves	Decoction	Drink the decoction	Locals of Kabayan, Benguet Province	CAR	Balangcod and Balangcod (2018)
	<i>Momordica charantia</i> Linn.	Bitter gourd	Ampalaya	Whole plant	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
	<i>Lagenaria siceraria</i> (Molina) Standl.	Calabash	Miracle plant	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Lagenaria siceraria</i> (Molina) Standl.	Calabash	Miracle plant	Leaves	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Cucumis sativus</i>	Cucumber	Pipino	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Cucumis sativus</i>	Cucumber	Pipino	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Momordica chinensis</i> L.	Bitter gourd	Ampalaya	Fruit	Eaten raw	Eat raw fruits	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Momordica chinensis</i> L.	Bitter gourd	Ampalaya	Fruit	Eaten raw	Eat raw fruits	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
	<i>Momordica chinensis</i> L.	Bitter gourd	Ampalaya	Fruit	Eaten raw	Eat raw fruits	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
<i>Momordica chinensis</i> L.	Bitter gourd	Ampalaya	Fruit	Eaten raw	Eat raw fruits	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)	
Cyperaceae	<i>Cyperus rotundus</i> L.	Nutgrass	Sinting / Barabas-babas	Rhizome	Decoction	Wash and sun-dried materials are boiled to concentration	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Cyperus rotundus</i> L.	Nutgrass	Sinting / Barabas-babas	Rhizome	Decoction	Wash and sun-dried materials are boiled to concentration	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Rhynchospora colorata</i> (L.) H.Pfeiff.	Star sedge	Busikad	Whole plant	Decoction	Drink the decoction once to thrice a day	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)

						or as needed (1-3 glasses)			
Ericaceae	<i>Vaccinium myrtilloides</i> (Blume) Miq.	Wild blueberry	Ayusip	Fruit	Eaten as food	Eaten as food in different preparations (jam, jelly, etc.)	Locals of Benguet, Cordillera Administrative Region	CAR	Chua-Barcelo (2014)
Euphorbiaceae	<i>Euphorbia hirta</i> L.	Asthma weed	Tawa-tawa	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Ricinus communis</i> L.	Castor oil plant	Palma christi	Bark	Topical application	Apply directly	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Croton</i> spp.	Croton	Tulak Mamis	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARM	Lukman (2023)
Fabaceae	<i>Clitoria ternatea</i> L.	Butterfly pea	Blue ternate	Flower	Infusion	Soak 7 flowers in hot water and drink thrice a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
	<i>Clitoria ternatea</i> L.	Butterfly pea	Blue ternate	Flower	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Mimosa pudica</i> L.	Sensitive plant	Huya-huya	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Manila tamarind	Kamansili	Leaves	Expression	Physically pressing or squeezing	Traditional healers in Southwest Cebu	Region VII (Central Visayas)	Del Fiero and Nolasco (2013)
	<i>Caesalpinia sappan</i> L.	Brazilwood tree	Sibukaw	Bark	Infusion	Ingestion	Traditional healers in Southwest Cebu	Region VII (Central Visayas)	Del Fiero and Nolasco (2013)
	<i>Flemingia strobilifera</i> (L.) W.F. Alton	Wild hops	Kolipes	Roots	Decoction	Boil 5-10 inches roots in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Flemingia strobilifera</i> (L.) W.F. Alton	Wild hops	Kolipes	Leaves (young)	Poultice	Apply directly	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Erythrina variegata</i> L.	Indian coral tree	Balitbitan	Bark	Poultice	Scrape the bark, partly roast, and then apply to the affected part	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Caesalpinia sappan</i> L.	Brazilwood tree	Sibukaw	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Erythrina variegata</i> L.	Indian coral tree	Balitbitan	Bark	Poultice	Scrape the bark, partly roast, and then apply to the affected part	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
<i>Sesbania grandiflora</i> (L.) Pers.	Swamp pea	Katuray	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)	

	<i>Sesbania grandiflora</i> (L.) Pers.	Swamp pea	Katuray	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Erythrina variegata</i> L.	Indian coral tree	Balitbitan	Bark	Poultice	Scrape the bark, partly roast, and then apply to the affected part	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Cajanus cajan</i> (Linn.) Millsp.	Pigeon pea	Kadios	Leaves	Decoction	Drink the decoction	Higaonons of Sitio Man-ibay, Claveria, Misamis Oriental	Region X (Northern Mindanao)	Lim (2015)
	<i>Caesalpinia sappan</i> L.	Sappan wood	Sibukaw	Stem	Decoction	Drink the decoction	Subanen tribe of Village Gala and Guimad, Ozamis City, Misamis Occidental	Region X (Northern Mindanao)	Alduhisa and Demayo (2019)
	<i>Caesalpinia sappan</i> L.	Brazilwood tree	Sibukaw	Stem	Expression	Scrape the stem and pound to get the extracted juice	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Phyllodium pulchellum</i> (L.) Desv.	Shamrock bush	Sadsad	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Dendrolobium umbellatum</i> (L.) Benth.	Umbrella tree	Kindang-kindang	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Pongamia pinnata</i> (L.) Pierre.	Indian beech	Amboway	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
Geraniaceae	<i>Pelargonium graveolens</i> Ait	Rose geranium	Malvarosa	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
Guttiferae	<i>Garcinia mangostana</i> Linn.	Mangosteen	Mangostan	Leaves	Decoction	Decoction of leaves, stem, roots, and then drink	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
Lamiaceae	<i>Mentha arguta</i> Opiz	Peppermint	Yerba buena	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Rosmarinus officinalis</i> (L.)	Rosemary	Romero	Leaves	Decoction	Drink the decoction	Vendors in Baguio City	CAR	Barcelo <i>et al.</i> (2022)
	<i>Mentha arvensis</i> L.	Corn mint	Herba buena	Leaves	Decoction	Drink the decoction	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)
	<i>Orthosiphon aristatus</i> (Blume) Miq.	Java tea	Java tea	Leaves	Decoction	Use a handful of leaves for decoction, serve as water	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
	<i>Vitex parviflora</i> A.Juss.	Molave	Tugas	Bark	Decoction	Drink the decoction every morning and every night before	Manambalay (shamanistic), manghihilot	Region IX (Zamboanga Peninsula)	Pucot and Demayo (2021)

						sleeping/until symptoms subside (1/2 glass)	(masseur/masseuse), and knowledgeable community members of Aurora, Zamboanga del Sur		
	<i>Plectranthus amboinicus</i> (Lour.) Spreng	Oregano	Oregano	Leaves	Decoction	Heat at least 20 leaves with fire and drink the extract	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Coleus aromaticus</i> Benth	Cuban oregano	Kalabo	Leaves	Decoction	Boil with water and drink it as a tea	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Callicarpa</i> spp.	Beautyberry	Basih-basih	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Clerodendron minahasse</i> Teysm. & Binn.	Philippine glorybower	Ugiyap	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
	<i>Ocimum sanctum</i> L.	Holy basil	Sulasi	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
	<i>Mentha cordifolia</i> Opiz	Heartleaf mint	Pepermint	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
	<i>Coleus blumei</i> Benth.	Painted needle	Mayana	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
	<i>Premna obtusifolia</i> L.	Premna	Premna	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
	<i>Rosmarinus officinalis</i> L.	Rosemary	Rosmarino	Leaves	Decoction	Drink the decoction	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Lauraceae	<i>Persea americana</i> Mill.	Avocado	Abokado	Fruits (peel)	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
Lauraceae	<i>Persea americana</i> (Mill.)	Avocado	Abokado	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Persea americana</i> (Mill.)	Avocado	Abokado	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Persea americana</i> (Mill.)	Avocado	Abokado	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Cinnamomum mercadoi</i> S.Vidal	Mercado's cinnamon	Kaningag	Leaves	Decoction	Drink the decoction	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)

	<i>Cinnamomum</i> sp.	Kringel	Kringel	Leaves	Decoction	Drink the decoction	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)
	<i>Cinnamomum mercadoi</i> S.Vidal	Mercado's cinnamon	Kaningag	Bark	Decoction	Drink decoction or alcohol-tinctured bark, stem, and root once or twice a day or as needed (3-5 glasses)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Cinnamomum mercadoi</i> S.Vidal	Kaliñgag	Kaliñgag	Bark	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Cinnamomum mercadoi</i> S.Vidal	Mercado's cinnamon	Kaningag	Bark	Decoction	Drink the decoction	Indigenous Communities in Esperanza, Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Lecythidaceae	<i>Barringtonia racemosa</i> (L.) Spreng	Powderpuff tree	Putat	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
Leguminosae	<i>Pterocarpus indicus</i> Willd	Narra	Nara	Bark	Decoction	Drink the decoction every morning and every night before sleeping/until symptoms subside (1/2 glass)	Manambalay (shamanistic), manghihilot (masseur/masseuse), and knowledgeable community members of Aurora, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pucot and Demayo (2021)
Liliaceae	<i>Allium sativum</i> L.	Garlic	Bawang	Root	Eaten raw	Internal administration route	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Allium sativum</i> L.	Garlic	Bawang	Bulb	Expression	Prepare juice	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Allium sativum</i> L.	Garlic	Bawang	Bulb	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
	<i>Allium sativum</i> L.	Garlic	Bawang	Bulb	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Lythraceae	<i>Lagerstroemia speciosa</i> (L.) Pers.	Banaba	Banaba	Leaves	Decoction	Drink the decoction	Locals of Manila	NCR (National Capital Region)	Madaleno (2017)
	<i>Lagerstroemia speciosa</i> (L.) Pers.	Pride of India	Banaba	Bark	Decoction	Use a handful of scraped bark and drink thrice a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)

	<i>Lagerstroemia speciosa</i> (L.) Pers.	Banaba	Banaba	Bark	Decoction	Drink the decoction every morning and every night before sleeping/until symptoms subside (1/2 glass)	Manambalay (shamanistic), manghihilot (masseur/masseuse), and knowledgeable community members of Aurora, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pucot and Demayo (2021)
Malvaceae	<i>Corchorus capsularis</i> L.	White jute	Saluyot	Leaves	Decoction	Drink the decoction	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)
	<i>Abelmoschus esculentus</i> (L.) Moench	Lady's finger	Okra	Fruit	Eaten as viand	Cook 7 fruits as vegetable and eat once a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
	<i>Abelmoschus esculentus</i> (L.) Moench	Lady's finger	Okra	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
	<i>Ceiba pentandra</i> (L.) Gaertn.	Kapok tree	Kapok	Leaves (young)	Poultice	Apply directly	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Theobroma cacao</i> L.	Cacao tree / Cocoa tree	Kakaw	Fruit	Poultice	Scrape the peeling of the fruit and apply on the affected area	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Infusion	Fruit	Drink the infusion	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)	

	<i>Theobroma cacao</i> L.	Cacao tree / Cocoa tree	Kakaw	Fruit	Topical application	Scrape the peeling of the fruit and apply on the affected area	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	Infusion	Drink the infusion	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Theobroma cacao</i> L.	Cacao tree / Cocoa tree	Kakaw	Fruit	Poultice	Scrape the peeling of the fruit and apply on the affected area	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Theobroma cacao</i> L.	Cacao tree / Cocoa tree	Kakaw	Fruit	Topical application	Scrape the peeling of the fruit and apply around to the affected body part	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Abelmoschus esculentus</i> (L.) Moench	Okra	Okra	Fruit	infusion	Drink the infusion	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
	<i>Hibiscus rosa- sinensis</i> L.	Hibiscus	Gumamela	Flowers	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim- Sylvianco (1995)
Meliaceae	<i>Melia azedarach</i> L.	Chinaberry tree	Laniti	Leaves	Topical application	Pound the leaves, extract the juice, mix with little kerosene and apply to the affected area	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Lansium domesticum</i> (Osbeck) K.C.Sahni & Bennet	Lanzones	Langsat / Lanzones	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Melia azedarach</i> L.	Chinaberry tree	Laniti	Leaves	Topical application	Pound the leaves, extract the juice, mix with little kerosene and apply to the affected area	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Swietenia macrophylla</i> King	Mahogany	Mahogany	Bark	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Melia azedarach</i> L.	Chinaberry tree	Laniti	Leaves	Topical application	Pound the leaves, extract the juice, mix with little kerosene and apply to the affected area	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Lansium domesticum</i> Corrêa	Lanzones	Lanzones	Leaves	Decoction	Drink the decoction	Tagabawa tribe of Brgy. Jose Rizal, Sta. Cruz, Davao del Sur	Region XI (Davao Region)	Waay-Juico <i>et al.</i> (2018)

	<i>Swietenia mahagoni</i> (L.) Jacq.	Mahogany	Mahogany	Bark	Decoction	Drink the decoction once a day or as needed (1-3 glasses)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Swietenia mahagoni</i> (L.) Jacq.	Mahogany	Lawa-lawa	Fruit	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Menispermaceae	<i>Tinospora rumphii</i> Boerl	Heavenly elixir	Makabuhay	Stem	Decoction	Boil 3 inch-stem of makabuhay then the decoction is to be drank by the patient	Indigenous Sambal-Bolinao of Pangasinan	Region I (Ilocos Region)	Fajardo <i>et al.</i> (2017)
	<i>Tinospora rumphii</i> Boerl	Heavenly elixir	Pitawali (Bajau) / Pait-pait (Yakan) / Panyawan (Visayan) / Patawali (Subanen)	Stem	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
Molluginaceae	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Higaonons of Sitio Man-ibay, Claveria, Misamis Oriental	Region X (Northern Mindanao)	Lim (2015)
	<i>Mollugo pentaphylla</i> L.	Five-leaved carpetweed	Balanai	Whole plant	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Moraceae	<i>Ficus septica</i> (Burm. f)	Hauili tree	Hawili	Leaves	Poultice	Apply as salve	Kanawan Aytas in Morong, Bataan	Region III (Central Luzon)	Antonio and Tuason (2022)
	<i>Streblus asper</i> Lour.	Sandpaper tree	Kalios	Leaves	Topical application	Bathed / Bathing	Locals of District 7, Cavite	Region IV-A (Calabarzon)	Balinado and Chan (2017)
	<i>Ficus elastica</i> Roxb. ex Hornem.	Rubber fig	Dakit	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)

						Reserve, Alcoy and Cantabaco Forest, Toledo		
<i>Ficus botryocarpa</i> Miq. var. <i>botryocarpa</i>	Cluster fig	Busyong	Trunk	Decoction	Boil 10 inches long and 5 inches wide bark in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
<i>Ficus elastica</i> Roxb. ex Hornem.	Rubber fig	Balite na dako	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
<i>Ficus elastica</i> Roxb. ex Hornem.	Rubber fig	Balite na dako / Goma (Yakan)	Leaves	Poultice	Poultice	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Langka	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
<i>Ficus septica</i> Burm.f.	Septic fig	Marabutan	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Nangka	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
<i>Ficus septica</i> (Burm. f)	Hauili tree	Hawili	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Nangka	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
<i>Ficus septica</i> (Burm. f)	Hauili tree	ikmo/Buyo	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
<i>Ficus septica</i> Burm.f.	Septic fig	Marabutan	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Nangka	Roots	Decoction	Drink the decoction	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao)	Odchimar <i>et al.</i> (2017)
<i>Ficus congesta</i>	Kalfagang	Kalfagang	Leaves	Poultice	Apply to affected part	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)

	<i>Ficus concinna</i> (Miq.) Miq.	Balete	Balete	Bark	Decoction	Drink the decoction once a day in thrice a week for 2 months (5-7 glasses)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Ficus concinna</i> (Miq.)Miq.	Elgant fig	Fig tree	Leaves	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Ficus concinna</i> (Miq.) Miq.	Balete	Balete	Bark	Decoction	Drink the decoction	Indigenous Communities in Esperanza, Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Artocarpus heterophyllus</i> Lam.	Jackfruit	Langka	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Ficus septica</i> Burm.f.	Septic fig	Marabutan	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Moringaceae	<i>Moringa oleifera</i> Lam.	Ben oil tree	Malunggay	Roots	Decoction	Ingestion	Traditional healers in Southwest Cebu	Region VII (Central Visayas)	Del Fiero and Nolasco (2013)
	<i>Moringa oleifera</i> Lam.	Ben oil tree	Malunggay	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
	<i>Moringa oleifera</i> Lam.	Ben oil tree	Kamunggay (Vis)	Leaves	Pulverizing	Pounding/crushing/ pulverizing when dried	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Moringa oleifera</i> Lam.	Ben oil tree	Malunggay	Leaves	Poultice	Pound the leaves and rub it to the affected area	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Moringa oleifera</i> Lam.	Ben oil tree	Malunggay	Leaves	Decoction	Decoction through viand	Visayans in Ipil and Siay, Zamboanga Sibugay	Region IX (Zamboanga Peninsula)	De Guzman <i>et al.</i> (2020)
	<i>Moringa oleifera</i> Lam.	Moringa	Malunggay	Leaves	Poultice	Pound the leaves and rub it to the affected area	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Moringa oleifera</i> Lam.	Ben oil tree	Malunggay	Leaves	Decoction	Drink the decoction	Muslim Maranaos in Iligan City	Region X (Northern Mindanao)	Olowa and Demayo (2015)
	<i>Moringa oleifera</i> Lam.	Moringa	Malunggay	Leaves	Poultice	Pound the leaves and rub it to the affected area	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Muntingiaceae	<i>Muntingia calabura</i> L.	Strawberry tree	Aratilis	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)

	<i>Muntingia calabura</i> L.	Strawberry tree	Aratilis	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
Musaceae	<i>Musa sapientum</i> L.	Banana	Saging	Leaves (young)	Poultice	Apply directly	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
Myrtaceae	<i>Psidium guajava</i> L.	Guava	Bayabas	Leaves	Decoction	Drink the decoction	Locals of Camiguin Island, Calayan, Cagayan	Region II (Cagayan Valley)	Docot <i>et al.</i> (2022)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Syzygium</i> sp.	Manahos	Manahos	Roots	Decoction	Drink the decoction	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao)	Odchimar <i>et al.</i> (2017)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Higaonons of Sitio Man-ibay, Claveria, Misamis Oriental	Region X (Northern Mindanao)	Lim (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Psidium guajava</i> Linn.	Guava	Bayabas	Leaves	Decoction	Decoction of leaves and then drink	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Syzygium malaccense</i> (L.) Merr.	Rose apple	Yambukan	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)

	<i>Psidium guajava</i> L.	Guava	Bayabas	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Oxalidaceae	<i>Oxalis corniculata</i> L.	Yellow woodsorrel	Alipangpang	Whole plant	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Oxalis corniculata</i> L.	Yellow woodsorrel	Alipangpang	Whole plant	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
Pandanaceae	<i>Pandanus odoratissimus</i> L.f.	Pandan	Pandan	Leaves	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Phyllanthaceae	<i>Antidesma bunius</i> (L.) Spreng.	Chinese laurel	Bignay	Leaves	Decoction	Drink the decoction	Locals of Manila	NCR (National Capital Region)	Madaleno (2017)
	<i>Phyllanthus niruri</i> L.	Stonebreaker	Sampalukan	Leaves	Poultice	Partly roast the leaves and then rub it all over the body	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Phyllanthus niruri</i> L.	Stonebreaker	Sampalukan	Leaves	Poultice	Partly roast the leaves and then rub it all over the body	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Phyllanthus niruri</i> L.	Stonebreaker	Sampalukan	Leaves	Poultice	Partly roast the leaves and then rub it all over the body	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
	<i>Phyllanthus niruri</i> L.	Stonebreaker	Sampalukan	Leaves	Poultice	Partly roast the leaves and then rub it all over the body	Higaonons of Sitio Man-ibay, Claveria, Misamis Oriental	Region X (Northern Mindanao)	Lim (2015)
	<i>Phyllanthus virgatus</i> G.Forst.	Seed-under-leaf	Kaya-an	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
Piperaceae	<i>Peperomia pellucida</i> (L.) Kunth	Shiny bush	Pansit-pansitan	Whole plant	Eaten raw	Wash thoroughly, blanch, eat as salad	Tadyawan Mangyans of Mindoro Island	MIMAROPA	Rubite <i>et al.</i> (2018)
	<i>Piper betel</i> Blanco (<i>syn: Piper betle</i> L.)	Betel leaf	Thalon	Leaves	Poultice	Apply directly	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Piper betel</i> L. (<i>syn: Piper betle</i> Blanco)	Betel leaf	Buyo / Tekkey (Yakan) / Thalon (Subanen)	Leaves	Tincture	Extraction and mix with rubbing alcohol, applied directly	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Peperomia pellucida</i> (L.) Kunth.	Shiny bush	Ulasiman-bato	Whole plant	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Piper betel</i> Blanco (<i>syn: Piper betle</i> L.)	Betel leaf	Ikmo/Buyo	Leaves	Topical application	Apply the leaves upside down to the breast and back overnight	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)

	<i>Peperomia pellucida</i> (L.) Kunth	Shiny bush	Pansit-pansitan	Whole plant	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Piper betel</i> L. (syn: <i>Piper betle</i> Blanco)	Betel leaf	Buyo / Tekkey (Yakan) / Thalon (Subanen)	Leaves	Topical application	Apply the leaves upside down to the breast and back overnight	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Peperomia pellucida</i> (L.) Kunth.	Shiny bush	Ulasiman-bato	Whole plant	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Piper decumanum</i> L.	Piper	Lunas bagon tapol	Stem	Tincture	Drink local alcohol-tinctured stem once a day in thrice a week or as needed (1/2 to 1 glass)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Piper nigrum</i> L.	Pepper	Lunas bagon puti	Stem	Tincture	Drink or gargle local alcohol-tintured stem once a day or thrice a week or as needed (1/2 to 1 glass)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Piper cf. nigrum</i> , 'wild'	Common pepper	Paminta	Stem	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Piper betel</i> Blanco (syn: <i>Piper betle</i> L.)	Betel leaf	Ikmo/Buyo	Leaves	Topical application	Apply the leaves upside down to the breast and back overnight	Agusan Manobo tribe	Region XIII (Caraga)	Mesa and Pondevida (2022)
	<i>Piper decumanum</i> L.	Pulikat	Pulikat / Lunas-bagon tapol	Stem	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Peperomia pellucida</i> (L.) Kunth.	Shiny bush	Ulasiman-bato	Whole plant	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
	<i>Peperomia pellucida</i> (L.) Kunth.	Shiny bush	Ulasiman-bato	Whole plant	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
Plantaginaceae	<i>Plantago major</i> L.	Common plantain	Linguha	Leaves	Decoction	Drink the decoction	Locals of Kabayan, Benguet Province	CAR	Balangcod and Balangcod (2018)
Poaceae	<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	Dulpiyang	Whole plant	Decoction	Drink the decoction	Subtribes of Lower Kalinga Province	CAR	Quesada and Ammakiw (n.d.)
	<i>Cymbopogon citratus</i> (DC.) Stapf	Lemon grass	Tanglad	Root	Eaten raw	Internal administration route	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Paragis	Roots	Decoction	Drink the decoction	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Plagtiki	Roots	Decoction	Drink the decoction	Ati tribe in Tobias Fornier, Antique	Region VI (Western Visayas)	Cordero and Alejandro (2021)

<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Boil leaves with <i>Eleusine indica</i> and <i>I. cylindrica</i> then drink	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Bambusa spinosa</i> Roxb	Spiny bamboo	Thorny bamboo	Leaves	Decoction	Boil handful of leaves with <i>Eleusine indica</i> and <i>I. cylindrica</i> then drink decoction, serve as water	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Imperata cylindrica</i> (L.) Rausch	Cogon grass	Cogon	Shoots	Decoction	Boil 7 shoots with <i>Eleusine indica</i> and <i>B. spinosa</i> then drink decoction for 1 week	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest Reserve, Alcoy and Cantabaco Forest, Toledo	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)
<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
<i>Bambusa blumeana</i> Schult. & Schult.f.	Bamboo	Kawayan	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	Sulapid (Subanen)	Leaves	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
<i>Eleusine indica</i> (L.) Gaertn.	Goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Meranaos in Baloi, Lanao del Norte	Region X (Northern Mindanao)	Abdulrachman <i>et al.</i> (2019)
<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Ilongot-Egongot Community of Bayanihan, Maria Aurora, Aurora	Region III (Central Luzon)	Balberona <i>et al.</i> (2018)
<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Locals (both non-Higaonon and Higaonon) of Sitio Lomboyán, Barangay	Region XIII (Caraga)	Omac <i>et al.</i> (2021)

						Guinabsan, Buenavista, Agusan del Norte		
	<i>Eleusine indica</i> (L.) Gaertn.	Indian goosegrass	Bila-bila	Leaves	Decoction	Drink the decoction	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga) Montero and Geducos (2021)
	<i>Cymbopogon citratus</i> (DC.) Stapf	Lemon grass	Tanglad	Leaves	Decoction	Drink the decoction	Locals of Brgy. Berseba, Bayugan City, Agusan del Sur	Region XIII (Caraga) Saro <i>et al.</i> (2022)
	<i>Cymbopogon citratus</i> (DC.) Stapf	Lemon grass	Tanglad	Whole plant	Decoction	Boiled with water and served as tea	Locals (both non- Higaonon and Higaonon) of Sitio Lombuyan, Barangay Guinabsan, Buenavista, Agusan del Norte	Region XIII (Caraga) Omac <i>et al.</i> (2021)
	<i>Imperata cylindrica</i> (L.) P.Beauv.	Cogon grass	Kogon	Roots	Decoction	Drink the decoction	Locals	Local Regions Serrame and Lim- Sylvianco (1995)
Polypodiaceae	<i>Pyrrhosia adnascens</i> (Sw.) Ching	-	-	Rhizome	Infusion	Drink the infusion	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao) Odchimar <i>et al.</i> (2017)
	<i>Drynaria quercifolia</i> (Linn.) J. Sm.	Oak-leaf fern	Pakpak lawin	Rhizome	Infusion	Drink the infusion	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao) Odchimar <i>et al.</i> (2017)
Portulacaceae	<i>Portulaca oleracea</i> L.	Purslane	Bilang Deya	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM Lukman (2023)
	<i>Portulaca pilosa</i> L.	Pink purslane	Pangih-pangih	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM Lukman (2023)
Primulaceae	<i>Embelia philippinensis</i> A.Gray	Philippine Embelia / Talisay	Kawilan	Roots	Decoction	Drink the decoction	Talaandig tribe of Brgy. Lilingayon, Valencia City, Bukidnon	Region X (Northern Mindanao) Odchimar <i>et al.</i> (2017)
	<i>Ardisia</i> spp.	Marlberry	Sumping Kalitan	Leaves	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM Lukman (2023)
Rubiaceae	<i>Morinda citrifolia</i> L.	Indian mulberry	Anino	Fruit	Decoction	Drink the decoction	Ati tribe in Tobias Fornier, Antique	Region VI (Western Visayas) Cordero and Alejandro (2021)
	<i>Morinda citrifolia</i>	Indian mulberry	Noni	Fruit	Decoction	Use 3 fruits and drink thrice a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas) Cordero <i>et al.</i> (2022)
	<i>Morinda citrifolia</i>	Indian mulberry	Noni	Fruit	Decoction	Drink the decoction	Ati tribes in Panay Island	Region VI (Western Visayas) Cordero <i>et al.</i> (2022)

	<i>Coffea arabica</i> L.	Coffee	Kape	Seeds	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Morinda citrifolia</i>	Indian mulberry	Apatot / Noni / Bangkoro	Fruit	Decoction	Drink the decoction	Bajau of Maasin, Zamboanga City	Region IX (Zamboanga Peninsula)	Madjos and Ramos (n.d.)
	<i>Coffea arabica</i> L.	Coffee	Kape	Seeds	Decoction	Drink the decoction		Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Morinda citrifolia</i> L.	Apatot / Noni fruit	Bangkoro (Bajau)	Leaves	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Morinda citrifolia</i>	Indian mulberry	Noni	Leaves	Topical application	Apply directly overnight	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Nuclea orientalis</i> L.	Bur tree	Kabak	Shoots	Topical application	Put the shoots to the affected part of the body	Local folks in Libas Gua and Tina Village of San Miguel, Surigao del Sur	Region XIII (Caraga)	Montero and Geducos (2021)
	<i>Ixora coccinea</i> L.	Ixora	Santan	Flowers	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
	<i>Ixora sinensis</i> Lam.	Chinese ixora	Santan	Flowers	Expression	Prepare juice	Locals	Local Regions	Serrame and Lim-Sylianco (1995)
Rutaceae	<i>Citrus sinensis</i> (L.) Osbeck	Orange	Dalandan	Fruit	Eaten raw	Internal administration route	Local herbalists in Cavite province	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Citrus limon</i> (L.) Osbeck	Lemon	Lemon	Leaves	Decoction	Drink the decoction	Locals of Cavite	Region IV-A (Calabarzon)	Caunca and Balinado (2021)
	<i>Citrus maxima</i> (Burm.) Merr	Pomelo	Boongon	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Citrus limon</i> (L.) Osbeck	Lemon	Lemon	Fruits	Infusion	Soak plant in a liquid to extract active ingredients	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Citrus limon</i> (L.) Osbeck	Lemon	Lemon	Fruits	Infusion	Infusion	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Rutaceae</i> sp.	Tanag-ahok	Tanag-ahok	Leaves	Decoction	Drink the decoction	B'laan tribe in Mt. Matutum Protected Landscape	Region XII (SOCCSKSARGEN)	Alinsug <i>et al.</i> (2022)

	<i>Micromelum minutumi</i> (G.Forst.) Wight & Arn.	Lime berry	Lunas kahoy	Leaves	Tincture	Drink local alcohol-tincture or decoction once or twice a day or as needed (1/2 to 1 glass)	Manobo tribe of Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Micromelum minutum</i> (G.Forst.) Wight & Arn	Lime berry	Limonsito	Leaves	Decoction	Drink the decoction	Manobo tribe of Bayugan City	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
	<i>Melicope triphylla</i> (Lam.) Merr.	Melicope	Dahile	Leaves	Decoction	Drink the decoction	Indigenous Communities in Esperanza, Agusan del Sur	Region XIII (Caraga)	Dapar <i>et al.</i> (2020)
Schizaeaceae	<i>Selaginella delicatula</i> (Desv. ex. Poir.)	Tender spike-moss	Dendunay	Roots	Poultice	Apply directly to the affected part	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
Selaginellaceae	<i>Selaginella tamariscina</i> (Beauv.) Spring.	Resurrection fern	Pakong-tulog	Leaves	Decoction	Boil dried leaves (100 g) in distilled water (500 ml) for 30 min	Locals	Local Regions	Bailly (2021)
Solanaceae	<i>Solanum betaceum</i> Cav.	Tamarillo	Tamarillo	Fruit	Eaten as food	Eaten as food in different preparations (jam, jelly, etc.)	Locals of Benguet, Cordillera Administrative Region	CAR	Chua-Barcelo (2014)
	<i>Solanum melongena</i> L.	Eggplant	Talong	Leaves	Decoction	Drink the decoction	Rural communities in Mina, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2023)
	<i>Solanum</i> sp.	Solanum	Thelong Subanen	Roots	Decoction	Boil 5-10 inches roots in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Solanum americanum</i> Mill.	American black nightshade	Kamoteng kahoy	Leaves	Decoction	Eat young leaves after boiling	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
	<i>Solanum americanum</i> Mill.	American black nightshade	Kamoteng kahoy	Leaves	Decoction	Eat young leaves after boiling	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
	<i>Solanum americanum</i> Mill.	American black nightshade	Kamoteng kahoy	Leaves	Decoction	Eat young leaves after boiling	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
	<i>Solanum lycopersicum</i> L.	Tomato	Kamatis	Fruit	Eaten raw	Wash and eaten raw	Muslim Maranaos in Iligan City	Region X (Northern Mindanao)	Olowa and Demayo (2015)
	<i>Solanum americanum</i> Mill.	American black nightshade	Kamoteng kahoy	Leaves	Decoction	Eat young leaves after boiling	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)

	<i>Solanum americanum</i> Mill.	American black nightshade	Kamoteng kahoy	Leaves	Decoction	Eat young leaves after boiling	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
Thymelaeaceae	<i>Aquilaria malaccensis</i> Lamk.	Agarwood	Lapnisan	Bark	Decoction	Boiled with water and served as tea	Locals (both non-Higaonon and Higaonon) of Sitio Lomboyan, Barangay Guinabsan, Buenavista, Agusan del Norte	Region XIII (Caraga)	Omac <i>et al.</i> (2021)
Urticaceae	<i>Laportea</i> sp.	Laportea	Dlingeting	Roots	Decoction	Boil 5-10 inches roots in an ample amount of water, drink 1/2 glass often	Subanen tribe of Lapuyan, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Pizon <i>et al.</i> (2016)
	<i>Urtica dioica</i>	Stinging nettle	Alingatong	Leaves	Decoction	Drink the decoction	Tribes of the Zamboanga peninsula (Chavacano, Bajau, Subanen)	Region IX (Zamboanga Peninsula)	Madjos and Ramos (2021)
	<i>Pipturus asper</i> Wedd.	Dalunot	Damay	Stem	Topical application	Apply directly	Indigenous peoples of SOCSARGEN region	Region XII (SOCCSKSARGEN)	Non-Cabrera <i>et al.</i> (2018)
	<i>Urtica dioica</i> L.	Stinging nettle	Alingatong / Lipang	Roots	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Urtica dioica</i> L.	Stinging nettle	Alingatong / Lipang	Leaves	Decoction	Drink the decoction	Visayans in Ipil and Siay, Zamboanga Sibugay	Region IX (Zamboanga Peninsula)	De Guzman <i>et al.</i> (2020)
	<i>Urtica dioica</i> L.	Stinging nettle	Alingatong / Lipang	Roots	Decoction	Boiled with water and served as tea	Locals of Sitio Lomboyan	Region XIII (Caraga)	Omac <i>et al.</i> (2021)
	<i>Urtica dioica</i> L.	Stinging nettle	Alingatong / Lipang	Roots	Tincture	Soak the roots in a bottle of wine and use the tincture	Butuanons in Butuan City	Region XIII (Caraga)	Ombat <i>et al.</i> (2023)
	<i>Laportea</i> spp.	Nettle	L'ppay Deya	Roots	Decoction	Drink the decoction	Sama Tabawan of Tawi-tawi	BARMM	Lukman (2023)
Verbenaceae	<i>Lantana camara</i> L.	Red sage	Warak	Leaves	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
	<i>Vitex negundo</i> Linn.	Five-leaf chaste tree	Lagundi	Leaves	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
Vitaceae	<i>Leea indica</i> (Burm. f.) Merr.	Bandicoot berry	Amamali	Leaves	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)

Zingiberaceae

<i>Curcuma zedoaria</i> (Berg.) Rosc	White turmeric	Kunig	Rhizome	Decoction	Drink the decoction	Subtribes of Lower Kalinga Province	CAR	Quesada and Ammakiw (n.d.)
<i>Curcuma domestica</i> Valet.	Turmeric	Aga-agat	Leaves	Decoction	Drink the decoction	Subtribes of Lower Kalinga Province	CAR	Quesada and Ammakiw (n.d.)
<i>Curcuma longa</i> L.	Turmeric	Kalawag	Fruits	Decoction	Drink the decoction	Locals of Camiguin Island, Calayan, Cagayan	Region II (Cagayan Valley)	Docot <i>et al.</i> (2022)
<i>Curcuma longa</i> Linn.	Turmeric	Luyang dilaw	Leaves	Decoction	Drink the decoction	Locals of Malinao, Albay	Region V (Bicol Region)	Belgica <i>et al.</i> (2021)
<i>Curcuma longa</i> L.	Turmeric	Kalawag	Rhizome	Decoction	Use 7 knobs and drink decoction thrice a day	Indigenous Panay Bukidnon in Lambunao, Iloilo	Region VI (Western Visayas)	Cordero <i>et al.</i> (2022)
<i>Curcuma longa</i> L.	Turmeric	Kalawag	Leaves	Decoction	Drink the decoction	Locals of Mt. Kapayas, Catmon, Nug-as Forest Reserve, Alcoy and Cantabaco Forest, Toledo	Region VII (Central Visayas)	Rosales <i>et al.</i> (2018)
<i>Curcuma domestica</i> Valet.	Turmeric	Aga-agat	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Leaves	Decoction	Drink the decoction	Cancer patients under treatment at Zamboanga Medical Center, Zamboanga City	Region IX (Zamboanga Peninsula)	Enriquez and Esplana (2022)
<i>Curcuma longa</i> Linn.	Turmeric	Dulaw	Rhizome	Decoction	Drink the decoction	Traditional healers of Pagadian City, Zamboanga del Sur	Region IX (Zamboanga Peninsula)	Agapin (2020)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	Subanens of Sindangan, Zamboanga del Norte	Region IX (Zamboanga Peninsula)	Agua and Olowa (2015)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Maranaos of Pualas, Lanao del Sur	Region X (Northern Mindanao)	Malawani <i>et al.</i> (2017)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)

<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	Maranaos of Bubong, Lanao del Sur	Region X (Northern Mindanao)	Manua (2015)
<i>Zingiber officinale</i>	Ginger	Luy-a	Roots	Pulverizing	Pounded and used as seasoning	Meranao people of Marawi City	BARM	Omar <i>et al.</i> (2024)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	Locals of Iligan City	Region X (Northern Mindanao)	Olowa (2015)
<i>Curcuma longa</i> L.	Turmeric	Kalawag	Stem	Decoction	Drink the decoction	Muslim Maranaos in Iligan City	Region X (Northern Mindanao)	Olowa and Demayo (2015)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
<i>Zingiber officinale</i> Roscoe	Ginger	Luy-a	Rhizome	Eaten raw	Eat raw rhizome	Higaonons of Rogongon, Iligan City	Region X (Northern Mindanao)	Olowa <i>et al.</i> (2012)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	Higaonons of Claveria, Misamis Oriental	Region X (Northern Mindanao)	Espinoza (2015)
<i>Zingiber officinale</i> Roscoe	Ginger	Luy-a	Rhizome	Eaten raw	Eat raw rhizome	Higaonons of Sitio Man-ibay, Claveria, Misamis Oriental	Region X (Northern Mindanao)	Lim (2015)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	T'boli of South Cotabato	Region XII (SOCCSKSARGEN)	Andalan (2015)
<i>Curcuma longa</i> L.	Turmeric	Kalawag	Rhizome	Eaten raw	Eat raw rhizome	Locals of Agusan del Sur	Region XIII (Caraga)	Arquion <i>et al.</i> (2015)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
<i>Zingiber officinale</i> (L.)	Ginger	Luya	Rhizome	Eaten raw	Eat raw rhizome	Locals of San Jose, Dinagat Islands	Region XIII (Caraga)	Haganas (2015)
<i>Curcuma longa</i> L.	Turmeric	Luyang dilaw	Rhizome	Decoction	Drink the decoction	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)
<i>Kaempferia galanga</i> L.	Resurrection lily	Dusol	Rhizome	Poultice	Directly apply poultice to the affected area	Mamanwas of Malimono, Surigao del Norte	Region XIII (Caraga)	Macaraya (2016)

To determine the effectiveness of these anticancer claims, scientific validation is essential. Table 4 presents experimental data on the anticancer activity of the three most frequently cited plant species used against cancer in the Philippines.

Table 4. Experimental data on the anticancer activity of the three most cited anticancer herbal plant species in the Philippines.

Plant Species	Study Design	Plant part used and preparation	Cancer cell line used	Outcome	References
<i>Annona muricata</i> L.	In vitro	Leaves; ethanolic and water extracts	EACC (esophageal adenocarcinoma cell line); MDA and SKBR3 (human breast cancer cell line)	Ethanolic leaf extract is cytotoxic to all cancer cell lines EACC, MDA, and SKBR3 with IC ₅₀ values of 335.85 µg/mL, 248.77 µg/mL, 202.33 µg/mL, respectively, while water extract has no anticancer effect on all tumor cell lines	Gavamukulya <i>et al.</i> (2014)
	In vitro	Fruit; aqueous, chloroform, ethyl acetate, hexane, and methanol extracts	HepG2 (human liver cancer cell line)	Methanol extract showed promising anticancer activity against HepG2 as shown in the intense nucleus fragments implicated in apoptosis via AO staining and DNA ladder assay; IC ₅₀ values of 62.699 µg/ml, 63.710 µg/ml, 20.617 µg/ml, 44.553 µg/ml and 13.104 µg/ml in chloroform, ethyl acetate, hexane, and methanol extracts, respectively.	Hemalatha <i>et al.</i> (2020)
	In vivo	Leaves; ethanolic extract	Balb/c female mice inoculated with 4T1 cells (model cells for breast cancer)	Significant antitumor and cytotoxic activity against breast cancer; major components of the extract were: rutin, narcissin, nicotinflorin, and flavonoids	Merlín-Lucas <i>et al.</i> (2021)
<i>Curcuma longa</i> L.	In vitro	Rhizomes; ethanolic extract	MDA-MB-231 (triple negative human breast cancer cell line)	Ethanolic extract has significant anticancer activity against the breast cancer cells with IC ₅₀ values of 49 ± 2.08 µg/ml in 0.25% DMSO and 40±1.03 µg/ml in 0.5% DMSO	Ahmad <i>et al.</i> (2016)
	In vivo	Supercritical Turmeric Oil Extract (SCTOE)	Two groups of female nude mice; (1) mice with tumor xenograft implants; (2) chemoprevention group pre-treated with NBFR-03 turmeric oil extract	The first group showed smaller tumor volumes in higher doses; the second group also showed smaller sizes of tumors relative to the control	Paradkar <i>et al.</i> (2021)

				for two weeks and injected with cancer cell suspension	
<i>Eleusine indica</i> (L.) Gaertn.	In vitro	Whole plant; butanolic and hexanolic extracts	A549 (human non-small cell lung cancer cell line); HeLa (human cervical cancer cell line)	Selective growth inhibition and lethality on both cancer cell lines; hexane extract exhibited a significant increase of apoptosis on lung cancer cells (A549); implication of apoptosis in both cell lines shown using DNA ladder assay; mechanism of cytotoxic effect on tumor cells concluded to be via apoptosis induction	Hansakul <i>et al.</i> (2009)
	In vitro	Whole plant; methanolic and hexane extracts	HepG2 (human liver cancer cell line)	Selective antiproliferative activity on HepG2 cancer cells (higher selectivity of methanolic extract than hexane); anticancer compounds isolated upon isolation and purification of hexane extract: (1) stigmaterol, (2) β -sitosterol; and from methanolic extract: (3) loliolide.	Sukor <i>et al.</i> (2022)

Our results showed that *Annona muricata*, *Curcuma longa*, and *Eleusine indica* were the three most cited plant species used to prevent or treat cancer in the Philippines. To support this traditional knowledge, contemporary research has revealed the mechanisms behind these claims, typically using cancer cell lines to test and deduce the mechanism regarding its anticancer activities. Moreover, *in vitro* experimentation requires solvent extraction to extract bioactive compounds from the plant, and *in vivo* requires inducing cancer in model organisms such as mice.

Apoptosis, a programmed cell death mechanism, plays an important role in inhibiting the growth and proliferation of cancer cells. During apoptosis, cells undergo controlled self-death in response to various stimuli, including exposure to anticancer agents. A relevant study on the anticancer activity of *Annona muricata* used Trypan blue-exclusion assay (TBEA) and 3-[4,5-dimethylthiazol-2-yl]-2,5 diphenyl tetrazolium bromide (MTT) assay to assess cell viability and proliferation in response to the ethanol and water leaf extract of the plant (Gavamukulya *et al.* 2014). Although different methods and cell sources were used, the results revealed a very high activity against esophageal cancer (EACC) and breast cancer (MDA and SKBR3) with very low and almost similar IC_{50} values. This suggests that *Annona muricata* may exert its anticancer effects by promoting apoptosis in these cancer cell lines (Ahmad *et al.* 2016). Similarly, an *in vivo* study of *Annona muricata* leaf ethanol extract also showed significant antitumor and cytotoxic activity against breast cancer (Hansakul *et al.* 2009). The major components determined contained in the extract were rutin, narcissin, nicotineflorin, and flavonoids. These bioactive compounds have diverse pharmacological properties, including antioxidant, anti-inflammatory, and anticancer activities. Aside from the previously mentioned apoptotic mechanism, these compounds also target other development pathways involved in cancer development and progression such as cancer cell proliferation and suppression of tumor growth. Additionally, their ability to mitigate inflammation and oxidative stress further enhances their anticancer effects. On the other hand, *Annona*

muricata's fruit methanolic extract showed promising anticancer activity against liver cancer (HepG2) still attributed to its apoptosis induction shown through DNA fragmentation assay. It was suggested that its apoptotic ability might be due to the presence of naturally-occurring secondary metabolites within the extract which act via an intrinsic pathway on Cytochrome C migration to the cytosol and mitochondrial membrane dissociation (Ahmad *et al.* 2016).

The ethanolic extract of the rhizomes of *Curcuma longa* was also proven to have a significant anticancer activity against MDA-MB-231 where the breast cancer cells exhibited characteristics of shrinking, detachment, and rounding, which is implicated in apoptotic cells (Sukor *et al.* 2022). Supporting this apoptotic ability, previous studies have discussed that the curcumin contained in *Curcuma longa* activates caspases, which are enzymes responsible for initiating apoptosis pathways and modulating the expression of pro-apoptotic and anti-apoptotic proteins, leading to the death of cancer cells. Also, complementing these in vitro results was an in vivo study that included two groups of female nude mice: one group with tumor xenograft implants, and another group pre-treated with NBFR-03 turmeric oil extract for two weeks before cancer cell injection (chemoprevention group) (Hemalatha *et al.* 2020). The results demonstrated that the first group, receiving the supercritical turmeric oil extract (SCTOE), exhibited smaller tumor volumes, indicating a suppression of tumor growth in mice with tumor xenograft implants. This suggests that SCTOE derived from *Curcuma longa* has a significant inhibitory effect on tumor progression in vivo. It was discussed that this smaller tumor volume can be attributed to its angiogenic inhibition mechanism since turmeric extracts have been shown to inhibit the formation of new blood vessels (angiogenesis) that are essential for tumor growth and metastasis.

In vitro studies on the whole plant extracts of *Eleusine indica* also reinforced its traditional use as an anticancer. Its butanolic and hexanolic extracts demonstrated selective growth inhibition and lethality against A549 (human non-small cell lung cancer cell line) and HeLa (human cervical cancer cell line) (Merlin-Lucas *et al.* 2021). The hexane extract notably exhibited a significant increase in apoptosis specifically on A549 cells, as indicated by the DNA ladder assay. This suggests that apoptosis induction may be a key mechanism underlying the cytotoxic effects of *Eleusine indica* extracts on both cancer cell lines. Furthermore, in vitro studies using methanolic and hexane extracts of the whole plant of *Eleusine indica* revealed selective antiproliferative activity against HepG2 (human liver cancer cell line), with the methanolic extract exhibiting higher selectivity than the hexane extract (Paradkar *et al.* 2021). Upon isolation and purification of the extracts, several anticancer compounds were identified. From the hexane extract, stigmasterol and β -sitosterol were isolated, while loliolide was isolated from the methanolic extract. The findings suggest that *Eleusine indica* extracts and their isolated compounds possess promising anticancer activity against various cancer cell lines, potentially mediated through apoptosis induction, antiproliferative effects, and modulation of molecular targets relevant to cancer pathogenesis.

Commonalities among these studies include the reliance on apoptosis induction as a primary mechanism for inhibiting cancer cell growth and proliferation. The findings suggest that natural compounds derived from these plants possess significant potential as anticancer agents, warranting further investigation into their mechanisms of action and therapeutic applications in cancer treatment and prevention.

Conclusions

This review presents a comprehensive account of traditional knowledge and use of herbal plants which are claimed to have anticancer properties in the Philippines. A total of 1,006 records from databases and search engines were initially obtained, comprising 27 from ScienceDirect, 30 from PubMed, 21 from DOAJ, and 928 from Google Scholar. Additionally, 13 records were identified from MSU-IIT DBS. After screening and retrieval, with reasons for exclusion reflected in Figure 1, only 64 new studies via databases and 13 new studies using MSU-IIT DBS were included in the review, resulting in a total of 71 studies. A total of 68 families, 145 genera, and 390 plant species were documented, of which the most commonly mentioned were the families Zingiberaceae, Annonaceae, and Apocynaceae. Meanwhile, the most frequently cited genera were *Annona*, followed by *Curcuma* and *Ficus*. Plant parts commonly used for anticancer preparations were leaves, roots, and fruits, respectively, with decoction being the predominant mode of preparation. *Annona muricata*, locally known as 'guyabano', emerged as the most commonly mentioned plant species, followed by *Curcuma longa* ('luyang dilaw') and *Catharanthus roseus* ('tsitsirika'). The geographical distribution of anticancer use claims revealed Mindanao as having the highest records, followed by Luzon, and then Visayas. Local communities, along with various ethnic groups and indigenous peoples (IPs), contributed to these claims. According to region, Region X (Northern Mindanao) had the highest records followed by Region XIII (Caraga), and Region IX (Zamboanga Peninsula).

These findings showcase the widespread and sustained utilization of herbal plants with anticancer properties across the Philippines, reflected in the deeply-rooted traditional knowledge and practices within local and indigenous communities.

Many similarities in plant species choices and modes of preparations used were observed across the claimants, hence showing remarkable consistency and coherence in traditional medicinal practices among different communities in the Philippines. This shared knowledge underscores the rich biodiversity of the Philippine flora and the deep cultural heritage of indigenous healing practices. However, it cannot be neglected that the people's faith in herbal remedies might also be due to the placebo effect. This notion presents the necessity of scientific validation of these traditional practices, especially in complex diseases like cancer, where determining symptoms is often ambiguous. Bridging alternatives with mainstream medicine must start with studies like this to serve as baseline knowledge, as well as guide researchers in the selection of potential candidates for therapeutic purposes, including cancer. Collaborative efforts between traditional healers, scientists, and healthcare providers are essential to harnessing the full potential of traditional herbal medicine in the fight against cancer.

Declarations

List of Abbreviations: Kathleen L. Cabanlit (KLC), Cesar G. Demayo (CGD), Mark Anthony J. Torres (MAJT)

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Authors' contributions: Conceptualization of the study was carried out by CGD and MAJT. Study design and data collection was done by KLC. Both authors contributed to the review process wherein KLC conducted the review of titles and abstracts and the eligible articles were then retrieved in full text for a subsequent evaluation by CGD and MAJT, and re-evaluation by KLC. Data analysis and drafting of the manuscript was done by KLC which was then read, proofread, and approved by CGD.

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Literature Cited

Abad PJ, Tan ML, Baluyot MM, Villa AQ, Talapian GL, Reyes ME, Suarez RC, Sur AL, Aldemita VD, Padilla CD, Laurino MY. 2014. Cultural beliefs on disease causation in the Philippines: challenge and implications in genetic counseling. *Journal of Community Genetics* 5: 399-407.

Abdulrachman NM, Ali AM, Maurac HM, Villarino AG. 2019. Ethnomedicinal knowledge among the M'ranos in Baloi, Lanao del Norte, Philippines. *International Journal of Science and Management Studies* 2(4): 38-44.

Agapin JS. 2020. Medicinal plants used by traditional healers in Pagadian City, Zamboanga del Sur, Philippines. *Philippine Journal of Science* 149(1): 83-89.

Agua ARC, Olowa LM. 2015. Medicinal Plants Used by the Subanen Tribe in Selected Barangays of Sindangan, Zamboanga Del Norte, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.

Ahmad R, Srivastava AN, Khan MA. 2016. Evaluation of in vitro anticancer activity of rhizome of *Curcuma longa* against human breast cancer and Vero cell lines. *Evaluation* 1(1): 1-6.

Alam MM, Naeem M, Khan MM, Uddin M. 2017. Vincristine and vinblastine anticancer Catharanthus alkaloids: Pharmacological applications and strategies for yield improvement. *Catharanthus roseus: Current Research and Future Prospects* 277-307.

Alduhisa GU, Demayo CG. 2019. Ethnomedicinal Plants Used by The Subanen Tribe in Two Villages In Ozamis City, Mindanao, Philippines. *Pharmacophore* 10(4-2019): 28-42.

Alinsug MV, Estandarte MH, Somodio EM, Sabarita MJ, Deocarís CC. 2022. Biodiversity of ethnomedicinal plants from the b'laan tribe in mount matutum protected Landscape, Southern Mindanao, Philippines. *Biodiversitas Journal of Biological Diversity* 23(1).

- Amundadottir LT, Thorvaldsson S, Gudbjartsson DF, Sulem P, Kristjansson K, Arnason S, Gulcher JR, Bjornsson J, Kong A, Thorsteinsdottir U, Stefansson K. 2004. Cancer as a complex phenotype: Pattern of Cancer Distribution Within and Beyond the Nuclear Family. *PLoS medicine* 1(3): e65.
- Andalan JR. 2015. Medicinal and Cosmetic Plants Used by the B'laans of the Municipality of T'boli South Cotabato, Mindanao, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Ang AV, Montiel CJ. 2019. Understanding spirit possession in the Philippines: a social representations approach. *Mental Health, Religion & Culture* 22(7): 738-753.
- Antonio NC, Tuason RJ. 2022. Ethnobotanical and phytochemical study of the medicinal plants used by Kanawan Aytas in Morong, Bataan, Philippines. *Indian Journal of Traditional Knowledge* 21(3): 595-604.
- Arances JB, Amoroso VB, Gruezo WS, Ridsdale C, Visser L, Tan BC, Rufila LV, Galvezo JB, Opiso GS, Comilap R, Lumaray C. 2004. Development of a participatory methodology for inventory and assessment of floral resources and their characterization in the montane forests of Mt. Malindang. PDM Press Inc. Quezon City, Philippines 1: 15-94.
- Arevalo MV, Robredo JP, Valenzuela S, Ho FD, Alberto NR, Alberto IR, Bernardo MN, Manlongat KD, Garcia AM, Tan JZ, Dee EC. 2022. The role of traditional, complementary, and alternative medicine in cancer care in the Philippines. *Chinese Clinical Oncology* 11(6): 49.
- Arquion RD, Galanida CC, Villamor B, Aguilar HT. 2015. Ethnobotanical study of indigenous plants used by local people of Agusan del Sur, Philippines. *Asia Pacific Higher Education Research Journal* 2(2).
- Bailly C. 2021. The traditional and modern uses of *Selaginella tamariscina* (P. Beauv.) Spring, in medicine and cosmetic: Applications and bioactive ingredients. *Journal of Ethnopharmacology* 280: 114444.
- Bakkali F, Averbeck S, Averbeck D, Idaomar M. 2008. Biological effects of essential oils—a review. *Food and Chemical Toxicology* 46(2):446-475.
- Balangcod T, Balangcod KD. 2015. Ethnomedicinal plants in Bayabas, Sablan, Benguet Province, Luzon, Philippines. *Electronic Journal of Biology* 11(3): 63-73.
- Balangcod TD, Balangcod KD. 2018. Plants and culture: plant utilization among the local communities in Kabayan, Benguet Province, Philippines. *Indian Journal of Traditional Knowledge* 17(4): 609-622.
- Balberona AN, Noveno JJ, Angeles MG, Santos RI, Cachin EJ, Cruz KJ. 2018. Ethnomedicinal plants utilized by the Ilongot-Egacut community of Bayanihan, Maria Aurora, Aurora, Philippines. *International Journal of Agricultural Technology* 14(2): 145-159.
- Balinado L, Chan M. 2017. An ethnomedicinal study of plants and traditional health care practices in District 7, Cavite, Philippines. In 2017 International Conference on Chemical, Agricultural, Biological and Medical Sciences 2017 Jan 23 (Vol. 10).
- Barbosa GB, Alinapon CV, Gultiano AG. 2021. Essential elements in *Etilingera elatior* (Jack) RM Sm. and *Etilingera philippinensis* (Ridl.) RM Sm. EDITORIAL BOARD 87.
- Barcelo RC, Gallao II MG, Balocnit RG, Caballero KL, Fernandez AR, Magwa KA, Valmoja JD, Garambas ZU, Barcelo JM. 2022. Traditional Medicinal Knowledge of Vendors and Their Contribution Toward Community Healthcare in Baguio City, Philippines. *Case Studies in Biocultural Diversity from Southeast Asia* 8: 125.
- Belgica TH, Suba M, Alejandro GJ. 2021. Quantitative ethnobotanical study of medicinal flora used by local inhabitants in selected Barangay of Malinao, Albay, Philippines. *Biodiversitas Journal of Biological Diversity* 22(7).
- Bersamin AT, Tayaben JL, Balangcod KD, Balangcod AK, Cendana AC, Dom-Ogen ET, Licnahan LO, Siadto B, Wong FM, Balangcod TD. 2021. Utilization of plant resources among the Kankanaeys in Kibungan, Benguet Province, Philippines. *Biodiversitas Journal of Biological Diversity* 22(1).
- Cascaes MM, Carneiro OD, Nascimento LD, de Moraes AA, de Oliveira MS, Cruz JN, Guilhon GM, Andrade EH. 2021. Essential oils from Annonaceae species from Brazil: a systematic review of their phytochemistry, and biological activities. *International Journal of Molecular Sciences* 22(22): 12140.

- Caunca ES, Balinado LO. 2021. Determination of use-value, informant consensus factor, and fidelity level of medicinal plants used in Cavite, Philippines. *Asian Journal of Biological and Life Sciences* 10(2): 443.
- Caunca ES, Balinado LO. 2021. The practice of using medicinal plants by local herbalists in Cavite, Philippines. *Indian Journal of Traditional Knowledge* 20(2): 335-343.
- Chen Y, Chen Y, Shi Y, Ma C, Wang X, Li Y, Miao Y, Chen J, Li X. 2016. Antitumor activity of *Annona squamosa* seed oil. *Journal of Ethnopharmacology* 193: 362-367.
- Chua-Barcelo RT. 2014. Ethno-botanical survey of edible wild fruits in Benguet, Cordillera administrative region, the Philippines. *Asian Pacific Journal of Tropical Biomedicine* 4: 525-538.
- Cordero C, ALEJANDRO GJ. 2021. Medicinal plants used by the indigenous Ati tribe in Tobias Fornier, Antique, Philippines. *Biodiversitas Journal of Biological Diversity* 22(2).
- Cordero C, Ligsay A, Alejandro GJ. 2020. Ethnobotanical documentation of medicinal plants used by the Ati tribe in Malay, Aklan, Philippines. *Journal of Complementary Medicine Research* 11: 170-198.
- Cordero CS, Meve U, Alejandro GJ. 2022. Ethnobotanical documentation of medicinal plants used by the indigenous panay bukidnon in lambunao, iloilo, Philippines. *Frontiers in Pharmacology* 12: 790567.
- Cordero CS, Meve U, Alejandro GJ. 2022. Quantitative ethnobotanical documentation of medicinal plants used by the indigenous ati tribes in Panay Island, Philippines. *Malaysian Journal of Sustainable Environment* 9(2): 143-170.
- Coria-Téllez AV, Montalvo-González E, Yahia EM, Obledo-Vázquez EN. 2018. *Annona muricata*: A comprehensive review on its traditional medicinal uses, phytochemicals, pharmacological activities, mechanisms of action and toxicity. *Arabian Journal of Chemistry* 11(5): 662-691.
- Danciu C, Vlaia L, Fetea F, Hancianu M, Coricovac DE, Ciurlea SA, Șoica CM, Marincu I, Vlaia V, Dehelean CA, Trandafirescu C. 2015. Evaluation of phenolic profile, antioxidant and anticancer potential of two main representants of Zingiberaceae family against B164A5 murine melanoma cells. *Biological Research* 48: 1-9.
- Dapar ML, Alejandro GJ, Meve U, Liede-Schumann S. 2020. Ethnomedicinal importance and conservation status of medicinal trees among indigenous communities in Esperanza, Agusan del Sur, Philippines. *Journal of Complementary Medicine Research* 11(1): 59-71.
- Dapar ML, Alejandro GJ, Meve U, Liede-Schumann S. 2020. Quantitative ethnopharmacological documentation and molecular confirmation of medicinal plants used by the Manobo tribe of Agusan del Sur, Philippines. *Journal of Ethnobiology and Ethnomedicine* 16: 1-60.
- Dapar ML, Meve U, Liede-Schumann S, Alejandro GJ. 2020. Ethnomedicinal appraisal and conservation status of medicinal plants among the Manobo tribe of Bayugan City, Philippines. *Biodiversitas Journal of Biological Diversity* 21(8).
- Das Chagas Lima NN, Faustino DC, Allahdadi KJ, de Aragão França LS, Pinto LC. 2022. Acetogenins from Annonaceae plants: Potent antitumor and neurotoxic compounds. *PharmaNutrition* 20: 100295.
- De Guzman AA, Jamanulla CE, Sabturani AM, Madjos G. 2020. Ethnobotany and physiological review on folkloric medicinal plants of the Visayans in Ipil and Siay, Zamboanga Sibugay, Philippines. *Philippine International Journal of Herbal Medicine* 8: 8-16.
- De Moraes MO, Bezerra FA, Costa-Lotufo LV, Pessoa C, de Moraes ME. 2006. Safety and efficacy of phytomedicines. *Advances in Phytomedicine* 2: 213-224.
- De Vera D. 2007. Indigenous peoples in the Philippines. RNIP Regional Assembly, Hanoi, Vietnam.
- Del Fiero RS, Nolasco FA. 2013. An exploration of the ethno-medicinal practices among traditional healers in southwest Cebu, Philippines. *ARPN Journal of Science and Technology* 3(12): 1182-1188.
- Department of Science and Technology. 2013. Stay Healthy with DOST-developed Guyabano Supplements and Tea. <https://www.dost.gov.ph/knowledge-resources/news/33-2013-news/203-stay-healthy-with-dost-developed-guyabano-supplements-tea>.

- Dev AA, Joseph SM. 2021. Anticancer potential of *Annona* genus: A detailed review. *Journal of the Indian Chemical Society* 98(12): 100231.
- Docot RV, Sohal AS, Cruz CG, Fontillas KA, Rodriguez MA, Trillana GE, Dapar ML. 2022. A Quantitative Ethnobotanical Study of Plants Used by the Locals in Camiguin Island, Calayan, Cagayan, Philippines. *Journal of Tropical Life Science* 12(1).
- Doctor TR, Manuel JF. 2014. Phytochemical screening of selected indigenous medicinal plants of Tublay, Benguet province, Cordillera administrative region, Philippines. *International Journal of Scientific and Research Publications* 4(4): 1-2.
- Enriquez KP, Esplana CC. 2022. Herbal and Dietary Supplement Use among Adult Patients Undergoing Treatment at a Tertiary Hospital Cancer Center. *Asian Journal of Oncology*.
- Erkens RH, Blanpain LM, Carrascosa Jara I, Runge K, Verspagen N, Cosiaux A, Couvreur TL. 2023. Spatial distribution of Annonaceae across biomes and anthromes: Knowledge gaps in spatial and ecological data. *Plants, People, Planet* 5(4): 520-535.
- Espinoza IK. 2015. Ethnobotanical Survey of Medicinal Plants Used by the Higaonons in Claveria, Misamis Oriental, Philippines Medicinal Plants Used by the Indigenous People of the Philippines: A Systematic Review. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Fajardo WT, Cancino LT, Dudang EB, De Vera IA, Pambid RM, Junio AD. 2017. Ethnobotanical study of traditional medicinal plants used by indigenous Sambal-Bolinao of Pangasinan, Philippines. *PSU Journal of Natural and Allie Sciences* 1(1):52-63.
- Flores-Olowa LM. 2015. Ethnobotanical Uses and Conservation of Medicinal Plants Among the Iliganons, Maranaos, and Higaonons. Ph.D. dissertation, Mindanao State University-Iligan Institute of Technology.
- Garganera MSB. 2015. Plants Used as Traditional Medicine by The Higaonon in Selected Barangays of Esperanza, Agusan Del Sur, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Gaston TE, Mendrick DL, Paine MF, Roe AL, Yeung CK. 2020. "Natural" is not synonymous with "Safe": Toxicity of natural products alone and in combination with pharmaceutical agents. *Regulatory Toxicology and Pharmacology* 113: 104642.
- Gavamukulya Y, Abou-Elella F, Wamunyokoli F, AEI-Shemy H. 2014. Phytochemical screening, anti-oxidant activity and in vitro anticancer potential of ethanolic and water leaves extracts of *Annona muricata* (Graviola). *Asian Pacific Journal of Tropical Medicine* 7: 355-363.
- Giordano A, Tommonaro G. 2019. Curcumin and Cancer. *Nutrients* 11(10): 2376.
- Haddaway NR, Page MJ, Pritchard CC, McGuinness LA. 2022. PRISMA2020: An R package and Shiny app for producing PRISMA 2020-compliant flow diagrams, with interactivity for optimised digital transparency and Open Synthesis. *Campbell Systematic Reviews* 18(2): e1230.
- Haganas JS. 2015. Medicinal Plants Used by The Locals of San Jose, Dinagat Islands Province, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Halder D, Barik BB, Dasgupta RK, Saumendu D. 2018. Aroma therapy: An art of healing. *Indian Research Journal of Pharmacy and Science* 17: 1540-58.
- Handayani T. 2018. Diversity, potential and conservation of Annonaceae in Bogor Botanic Gardens, Indonesia. *Biodiversitas Journal of Biological Diversity* 19(2): 541-553.
- Hansakul P, Ngamkitidechakul C, Ingkaninan K, Sireeratawong S, Panunto W. 2009. Apoptotic induction activity of *Dactyloctenium aegyptium* (L.) PB and *Eleusine indica* (L.) Gaerth. extracts on human lung and cervical cancer cell lines. *Songklanakarin Journal of Science & Technology* 31(3).
- Hemalatha G, Sivakumari K, Rajesh S, Shyamala Devi K. 2020. Phytochemical profiling, anticancer and apoptotic activity of graviola (*Annona muricata*) fruit extract against human hepatocellular carcinoma (HepG-2) cells. *International Journal of Zoology and Applied Biosciences* 5(1): 32-47.
- Huesca EF. 2016. Plantation economy, indigenous people, and precariousness in the Philippine uplands: the Mindanao experience. *Human Insecurities in Southeast Asia* 173-192.

- Imran M, Khan H, Shah M, Khan R, Khan F. 2010. Chemical composition and antioxidant activity of certain *Morus* species. *Journal of Zhejiang University Science B* 11: 973-980.
- Islam MS, Lucky RA. 2019. A study on different plants of Apocynaceae family and their medicinal uses. *Journal of Pharmacy Research* 4(1): 40-44.
- Islam Z, Islam SR, Hossen F, Mahtab-ul-Islam K, Hasan MR, Karim R. 2021. *Moringa oleifera* is a prominent source of nutrients with potential health benefits. *International Journal of Food Science* 2021(1): 6627265.
- Izevbigie EB. 2003. Discovery of water-soluble anticancer agents (edotides) from a vegetable found in Benin City, Nigeria. *Experimental Biology and Medicine* 228(3) :293-298.
- Jay MA, Grath-Lone M. 2019. Educational outcomes of children in contact with social care in England: a systematic review. *Systematic Reviews* 8(1): 1-1.
- Jha AK, Sit N. 2022. Extraction of bioactive compounds from plant materials using combination of various novel methods: A review. *Trends in Food Science & Technology* 119: 579-591.
- Kamaruddin MS, Chong GH, Daud NM, Putra NR, Salleh LM, Suleiman N. 2023. Bioactivities and green advanced extraction technologies of ginger oleoresin extracts: A review. *Food Research International* 164: 112283.
- Krupanidhi S, Madhan Sai N, Leung H, Kineman JJ. 2017. The leaf as a sustainable and renewable system. *Systems Research and Behavioral Science* 34(5): 564-576.
- Langenberger G, Prigge V, Martin K, Belonias B, Sauerborn J. 2008. Ethnobotanical knowledge of Philippine lowland farmers and its application in agroforestry. In *Advances in Agroforestry*. Springer, Dordrecht 173-194.
- Lim YSDC. 2015. Plants Used in Reproductive Healthcare Practices of the Higaonons In Sitio Man-Ibay, Aposkahoy, Claveria, Misamis Oriental, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Liu CX. 2021. Overview on development of ASEAN traditional and herbal medicines. *Chinese Herbal Medicines* 13(4): 441-450.
- Lukman, A. G. 2023. Phytochemical Screening of the Useful Plants Utilized for the Sama Tabawan Traditional Healings, Tawitawi, Philippines. *Science International Lahore* 35(1): 45-48.
- Mabuay FJM. 2015. Medicinal Plants in the Reproductive Healthcare Practices Among Maranao Women In Kapai, Lanao Del Sur, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Macaraya JC. 2016. Forest Resources in Malimono, Surigao Del Norte: Uses, Practices, and Conservation Efforts Among the Mamanwas. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Madaleno JM. 2017. Food and medicinal plants consumed in Manila, the Philippines. *WIT Transactions on the Built Environment* 170: 203-210.
- Madjos G, Ramos K. 2021. Ethnobotany, Systematic Review and Field Mapping on Folkloric Medicinal Plants in the Zamboanga Peninsula, Mindanao, Philippines. *Journal of Complementary Medicine Research* 12:10.5455.
- Madjos GG, Ramos KP. 2021. Ethnobotanical indigenous knowledge, systems and practices (IKSP) in Western Mindanao, Philippines: The sea nomads "Bajau" of Zamboanga City. *International Journal of Botany Studies* 6(5): 819-825.
- Magtalas MC, Balbin PT, Cruz EC, Guevarra RC, Cruz AR, Silverio CE, Lee KY, Tantengco OA. 2023. A Systematic Review of Ethnomedicinal Plants used for pregnancy, childbirth, and postpartum care in the Philippines. *Phytomedicine Plus* 3(1): 100407.
- Malawani A, Nuneza O, Uy M, Senarath WT. 2017. Ethnobotanical survey of the medicinal plants used by the Maranois in Pualas, Lanao del Sur, Philippines. *Bulletin of Environment, Pharmacology, and Life Sciences* 6(6): 45-53.
- Manua AA. 2015. Ethnobotanical Study On The Medicinal Plants Used By The Maranaos In The Municipality Of Bubong, Lanao Del Sur, Philippines. Bachelor's Thesis, Mindanao State University-Iligan Institute of Technology.
- Marrero AD, Quesada AR, Martínez-Poveda B, Medina MÁ, Cárdenas C. 2023. A Proteomic Study of the Bioactivity of *Annona muricata* Leaf Extracts in HT-1080 Fibrosarcoma Cells. *International Journal of Molecular Sciences* 24(15): 12021.

- Mata CT. 2004. Ascertaining Food Security In Two Mindanao Peri-Urban Communities: Conducting A Situation Analysis. PhD dissertation, University of Hawai'i.
- McDoom OS, Gisselquist RM. 2016. The measurement of ethnic and religious divisions: Spatial, temporal, and categorical dimensions with evidence from Mindanao, the Philippines. *Social Indicators Research* 129: 863-891.
- Mendes RF, Bellozi PM, Conegundes JL, Fernandes MF, Pinto NC, Silva JM, Costa JC, Chedier LM, Dias AC, Scio E. 2021. In vivo anti-inflammatory and antinociceptive effects, and in vitro antioxidant, antiglycant and anti-neuroinflammatory actions of *Syzygium malaccense*. *Anais da Academia Brasileira de Ciências* 93: e20210457.
- Merlín-Lucas V, Ordoñez-Razo RM, Calzada F, Solís A, García-Hernández N, Barbosa E, Valdés M. 2021. Antitumor potential of *Annona muricata* Linn. an edible and medicinal plant in Mexico: in vitro, in vivo, and toxicological studies. *Molecules* 26(24): 7675.
- Mesa MJ, Pondevida HB. 2022. Ethnobotanical Study and Phytochemical Screening of Selected Medicinal Plants in Agusan del Sur. *American Journal of Bioscience and Bioinformatics* 1(1): 6-16.
- Miano RS, Picardal JP, Alonso CA, Reuyan D. 2011. Ethnobotanical inventory and assessment of medically-important plant roots in Cebu Island, Philippines. *Asian Journal of Biodiversity* 2(1).
- Monteclaro, AR, Examen, ST, Gavasan, JC, Magote, MN, Moradilla, HM, Noche, EN. 2014. Ginger Ashitaba Oregano Brew. In DLSU Research Congress 2014, De La Salle University, Manila, Philippines, March 6-8 2014.
- Montero, JC, Geducos, DT. 2021. Ethnomedicinal plants used by the local folks in two selected villages of San Miguel, Surigao del Sur, Mindanao, Philippines. *International Journal of Agricultural Technology* 17(1): 193-212.
- Morampudi S, Das N, Gowda A, Patil A. 2017. Estimation of lung cancer burden in Australia, the Philippines, and Singapore: an evaluation of disability adjusted life years. *Cancer Biology and Medicine* 14(1):74.
- Morilla LJ, Demayo CG. 2019. Medicinal plants used by traditional practitioners in two selected villages of Ramon Magsaysay, Zamboanga del Sur. *Pharmacophore* 10(1): 84-92.
- Morilla LJ, Sumaya NH, Rivero HI, Madamba MR. 2014. Medicinal plants of the Subanens in Dumingag, Zamboanga del Sur, Philippines. In *International Conference on Food, Biological and Medical Sciences* 10.
- Murugesu S, Selamat J, Perumal V. 2021. Phytochemistry, Pharmacological properties, and recent applications of *Ficus benghalensis* and *Ficus religiosa*. *Plants* 10(12): 2749.
- Nachvak SM, Soleimani D, Rahimi M, Azizi A, Moradinazar M, Rouhani MH, Halashi B, Abbasi A, Miryan M. 2023. Ginger as an anticorectal cancer spice: A systematic review of in vitro to clinical evidence. *Food Science and Nutrition* 11(2): 651-660.
- Non-Cabrera ML, Descallar AL, Obemio CD, Cruz TT, Lañojan R. 2018. Ethnomedicinal Resources of the Indigenous People's (IP) Groups in the SOCSARGEN Region. *Journal of Health Research and Society* 1:2-2.
- Odchimar NM, Nuñez OM, Uy MM, Senarath WT. 2017. Ethnobotany of medicinal plants used by the Talaandig tribe in Brgy. Lilingayon, Valencia City, Bukidnon, Philippines. *Asian Journal of Biological and Life Sciences* 6(1).
- Olowa L, Demayo CG. 2015. Ethnobotanical uses of medicinal plants among the Muslim Maranaos in Iligan City, Mindanao, Philippines. *Advances in Environmental Biology* 9(27): 204-215.
- Olowa LF, Torres MA, Aranico EC, Demayo CG. 2012. Medicinal plants used by the Higaonon tribe of Rogongon, Iligan City, Mindanao, Philippines. *Advances in Environmental Biology* 1: 1442-1450.
- Omac M, Along A, Ligalig R, Rosal J, Almadin FJ. 2021. Medicinal plants used by the local communities of Sitio Lombayan, Barangay Guinabsan, Buenavista, Agusan del Norte, Philippines. *Annals of Studies in Science and Humanities* 3(1): 1-4.
- Omar SA, Demayo C, Bagbag E, Torres MA. 2024. Edible plants with medicinal properties used in a community of the Meranao people of Marawi City, the Philippines. *Ornamental and Medicinal Plants* 7(1-2): 1-20.
- Ombat LA, Demetillo MT, Tiongson BO, Ponio JI. 2023. The medicinal plants utilized by Butuanon in Butuan City, Philippines. *Plant Science Today* 10(4): 144-154.

- Ong HG, Kim YD. 2014. Quantitative ethnobotanical study of the medicinal plants used by the Ati Negrito indigenous group in Guimaras island, Philippines. *Journal of Ethnopharmacology* 157: 228-242.
- Pablo CG. 2019. Botika Sa Kalikasan: Medicinal Plants Used by Aetas of Sitio Parapal Hermosa Bataan, Philippines. *Journal of Social Health* Volume 2(1).
- Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, Shamseer L, Tetzlaff JM, Akl EA, Brennan SE, Chou R. 2021. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *The BMJ* 372.
- Paradkar PH, Juvekar AS, Barkume MS, Amonkar AJ, Joshi JV, Soman G, Vaidya AD. 2021. In vitro and in vivo evaluation of a standardized *Curcuma longa* Linn formulation in cervical cancer. *Journal of Ayurveda and Integrative Medicine* 12(4): 616-622.
- Passalacqua NG, Guarrera PM, De Fine G. 2007. Contribution to the knowledge of the folk plant medicine in Calabria region (Southern Italy). *Fitoterapi* 78(1): 52-68.
- Pelser P.B., Barcelona J.F., Nickrent D.L. (eds.). 2011. Co's Digital Flora of the Philippines. <http://www.philippineplants.org>.
- Peña JF, Dapar ML, Aranas AT, Mindo RA, Cabrido CK, Torres MA, Manting MM, Demayo CG. 2019. Assessment of antimicrobial, antioxidant and cytotoxic properties of the ethanolic extract from *Dracontomelon dao* (Blanco) Merr. & Rolfe. *Pharmacophore* 10(2): 18-29.
- Pieme CA, Kumar SG, Dongmo MS, Moukette BM, Boyoum FF, Ngogang JY, Saxena AK. 2014. Antiproliferative activity and induction of apoptosis by *Annona muricata* (Annonaceae) extract on human cancer cells. *BMC Complementary and Alternative Medicine* 14: 1-10.
- Pizon JR, Nuñez OM, Uy MM, Senarath WT. 2016. Ethnobotany of medicinal plants used by the Subanen tribe of Lapuyan, Zamboanga del Sur. *Bulletin of Environment, Pharmacology, and Life Sciences* 5(55): 53-67.
- Pucot JR, Demayo CG. 2021. Ethnomedicinal documentation of polyherbal formulations and other folk medicines in Aurora, Zamboanga del Sur, Philippines. *Biodiversitas Journal of Biological Diversity* 22(12).
- Pucot JR, Demayo CG. 2021. Medicinal plants used by the indigenous people of the Philippines: A systematic review of ethnobotanical surveys and bioactive compounds. *Journal of Complementary Medicine Research* 12(2): 107-107.
- Qu Y, Safonova O, De Luca V. 2019. Completion of the canonical pathway for assembly of anticancer drugs vincristine/vinblastine in *Catharanthus roseus*. *The Plant Journal* 97(2): 257-266.
- Quesada ME, Ammakiw CL. 2021. Documentation of Ethnomedicinal Plants used by the Subtribes of Lower Kalinga Province. *The Seybold Report* 18: 1193-1224.
- Ragragio EM, Zayas CN, Obico JJ. 2013. Useful plants of selected Ayta communities from Porac, Pampanga, Twenty years after the eruption of Mt. Pinatubo. *Philippine Journal of Science* 142(3): 169-182.
- Rajput A, Osmani RA, Singh E, Banerjee R. 2022. Cancer: A sui generis threat and its global impact. In *Biosensor Based Advanced Cancer Diagnostics*. Academic Press 1-25.
- Raterta R, de Guzman GQ, Alejandro GJ. 2014. Assessment, inventory and ethnobotanical survey of medicinal plants in Batan and Sabtang Island (Batanes Group of Islands, Philippines). *International Journal of Pure and Applied Bioscience* 2(4): 147-154.
- Retuerma-Dioneda AN, Alejandro GJ. 2023. Species diversity of Annonaceae in the four selected protected areas in the Bicol Region, Philippines. *Biodiversitas Journal of Biological Diversity* 24(10).
- Rosales ER, Casio CR, Amistad VR, Polo CM, Dugaduga KD, Picardal JP. 2018. Floristic inventory and ethnobotany of wild edible plants in Cebu Island, Philippines. *Asian Journal of Biodiversity* 9(1).
- Rubio MM, Naive MA. 2018. Ethnomedicinal plants used by traditional healers in North Cotabato, Mindanao, Philippines. *Journal of Biodiversity and Environmental Sciences* 13(6): 74-82.
- Rubite R, Sia I, Co L, Ylagan L. 2002. Ethnopharmacologic documentation of selected philippine ethnolinguistic groups: the Mangyan (Tadyawan) people of Mindoro Island. Bachelor's thesis, University of the Philippines Manila.

- Saro JM, Daguio JD, Idpalina RA. 2022. Indigenous Plants: An Ethnobotanic Herbal Medicinal Plants used by Locals of Bayugan City, Agusan. *Journal of Current Research* 14(08): 22059-22063.
- Serrame E, Lim-Sylianco CY. 1995. Anti-tumor promoting activity of decoctions and expressed juices from Philippine medicinal plants. *Philippine Journal of Science* 124(3): 275-281.
- Silihe KK, Mbou WD, Ngo Pambe JC, Kenmogne LV, Maptouom LF, Kemegne Sipping MT, Zingue S, Njamen D. 2023. Comparative anticancer effects of *Annona muricata* Linn (Annonaceae) leaves and fruits on DMBA-induced breast cancer in female rats. *BMC Complementary Medicine and Therapies* 23(1): 234.
- Sukor S, Zahari Z, Rahim N, Yusoff J, Salim F. 2022. Chemical constituents and antiproliferative activity of *Eleusine indica* (L.) gaertn. *Sains Malaysiana* 51(3): 873-882.
- Suresh HM, Shivakumar B, Shivakumar SI. 2012. cytotoxicity of aporphine alkaloids from the roots of *Annona reticulata* on human cancer cell lines. *International Journal of Plant Research* 2(3): 57-60.
- Ting RS, Aw Yong YY, Tan MM, Yap CK. 2021. Cultural responses to COVID-19 pandemic: Religions, illness perception, and perceived stress. *Frontiers in Psychology* 12: 634863.
- Vicencio MC, Somoray MJ. 2023. Inventory of Medicinal Plants in Northern Samar. *Journal of Coastal Life Medicine* 11: 1405-1431.
- Waay-Juico M, Cortuna G, Evangelista S, Gatal R, Licuanan C, Tapia F. 2018. Ethnobotanical practices of Tagabawa tribe on selected medicinal plants at Barangay Jose Rizal, Sta. Cruz, Davao del Sur, Philippines. *Journal of Complementary and Alternative Medical Research* 4(3): 1-2.
- Wills RB, Bone K, Morgan M. 2000. Herbal products: active constituents, modes of action and quality control. *Nutrition Research Reviews* 13(1): 47-77.
- Xiong B, Zhang W, Wu Z, Liu R, Yang C, Hui A, Huang X, Xian Z. 2021. Preparation, characterization, antioxidant and anti-inflammatory activities of acid-soluble pectin from okra (*Abelmoschus esculentus* L.). *International Journal of Biological Macromolecules* 181: 824-834.
- Yajid AI, Ab Rahman HS, Wong MP, Zain WZ. 2018. Potential benefits of *Annona muricata* in combating cancer: A review. *The Malaysian Journal of Medical Sciences* 25(1): 5.
- Zammel N, Saeed M, Bouali N, Elkahoui S, Alam JM, Rebai T, Kausar MA, Adnan M, Siddiqui AJ, Badraoui R. 2021. Antioxidant and anti-inflammatory effects of *Zingiber officinale* Roscoe and *Allium subhirsutum*: In silico, Biochemical and histological Study. *Foods* 10(6): 1383.