Master's thesis

NTNU
Norwegian University of Science and Technology
Faculty of Natural Sciences
Department of Biology

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Using an ethnobotanical approach

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Kunnskap for en bedre verden

SARAH ADOM YAWSON

Spatial assessment of ecosystem services in Ghana:

Using an ethnobotanical approach

A thesis submitted in partial fulfilment of the requirements for the degree of
Master of Science in Natural Resources Management, Biology
at the Department of Biology,
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Supervisors:
Main – James D. M. Speed (Associate Professor)
Co – Stuart W. Smith (Postdoctoral Fellow)

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ABSTRACT

Ecosystem services support countless livelihoods worldwide. These include the provisioning of medicines, food, fuelwood, livestock fodder, building materials and cultural artefacts that have been documented in ethnobotanical studies. In Ghana, most indigenous communities rely on traditional uses of plants although there are still untapped potentials of plants. Knowledge of the distribution of plants of Ghana is still unclear due to a lack of studies. The latter has resulted in limited records in investigating the distribution of ecosystem services in Ghana. Researchers have provided an appropriate way of evaluating the distribution of plant species with the application of species distribution models (SDMs) to remedy the situation. This project aimed to integrate SDMs and ethnobotany to map a spatial distribution of plant-derived ecosystem services in relation to annual precipitation, temperature, human population and land cover in Ghana. A review of ethnobotanical studies of plants used by indigenous people in Ghana was conducted to compile and categorise ecosystem services derived from plants. A total of 398 species of plants were identified as providing ecosystem services. The identified plant species encompassed healthcare (72%), agriculture (8%), energy (4%), food and nutrition (5%), construction (3.4%), culture (2.5%), social (4.6%) and water purification (0.25%) ecosystem services. A further 16 groups were derived from the healthcare category, reflecting fields of medicine. Records of the occurrence of plants were obtained from GBIF and analysed spatially. Detailed species distribution models of the 8 ecosystem service categories and 16 groups within the health care category were provided with Maximum Entropy modelling approach using data from the human population, land cover, annual precipitation, and temperature seasonality. The model performance was best for ecosystem services with the fewest number of species. Modelling the ecosystem services and groups within health care in general, resulted in poor SDMs. However, analyses of individual species within these ecosystem services and healthcare groups improved the models and further allowed for the assessment of variables related to key species. Assessment of variable contributions pointed out land cover and temperature as the most important to the ecosystem services distribution. This study provides the basis that models with multiple species and within a large range of habitat requirement do not work well. Temperature and land cover are important in predicting the spatial distribution of plant-derived ecosystem services. Additionally, SDMs are appropriate in prioritising target species in Ghana for specific ecosystem services.

Keywords: *Ecosystem services, ethnobotanical studies, species distribution modelling, MaxEnt*

DEDICATION

I dedicate this thesis to God who has been my strong pillar throughout this programme. I would like to especially thank my parents Mr. Josiah Kojo Yawson and Madam Selina Nkansah for the immense support and encouragement they have rendered throughout my life. I would also like to specially acknowledge Mr. and Mrs. Osei and Ps. Mukenge for their financial support. Again, I would like to appreciate Jacob Budu-Aggrey, whose encouragement pushed me to give this thesis all it takes to be finished.

Special thanks to my supervisors, James D. M Speed (Associate Professor) at the Institute of Natural History Museum (NTNU) and Stuart W. Smith (Postdoctoral Fellow) at the Department of Biology (NTNU) for suggesting the project and thoroughly guiding me through to the end.

Finally, I would also like to appreciate Michael Ogbe (PhD candidate) at the Department of Geography (NTNU) for the provision of the study area map and constant assistance with reviews of this study.

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LIST OF ABBREVIATIONS

AEZs	-	Agro-ecological Zones
AUC	-	Area Under the (Receiver Operating Characteristics) Curve
BIOCLIM	-	Bioclimatic Modelling
GARP	-	Genetic Algorithm for Rule Set Production
GBIF	-	Global Biodiversity Information Facility
LQHPT	-	Light, Quadratic, Hinge, Product, Threshold
MARS	-	Multivariate Adaptive Regression Splines
Maxent	-	Maximum Entropy
SDMs	-	Species Distribution Models

1. INTRODUCTION

1.1 The concept of ecosystem services as derived from ethnobotanical studies

Biodiversity is an important component of ecosystems as it supports ecosystem functions. Humans are also an integral part of ecosystems because they seek numerous desired services from nature and ecosystems (MEA, 2005). Thus, the benefits they obtain are termed Ecosystem services (ES). These services have been categorised into provisioning, such as food and water; regulating, such as flood, drought, and disease regulation; supporting, such as the formation of soil and nutrient cycling; and cultural services, such as recreational, educational, spiritual, and other non-material benefits (Costanza *et al*., 1997). A very important point to consider, however, is that the delivery of an ecosystem service, despite its contribution to human well-being, may not suggest its optimal use. This is because different people gain benefits from ecosystem services in diverse ways, according to their access to these resources and the value they place on resource management (Hein *et al*., 2006; Kozak *et al*., 2011). About one billion people worldwide, are supplied directly with provisioning services e.g. non-timber forest products, fuelwood, fresh water, and fish (Ninan, 2011). Traditionally, rural West African communities rely on services provided by plants and animals, as their source of livelihoods. Particularly, native plant species (example fruits, leaves, bulbs) have played a vital role in sustaining household subsistence needs, which include nutrition, medical treatment, and energy supply (Heubes *et al*., 2012). However, the challenge of categorising plant-derived ecosystem services particularly in West Africa still exists. Cook (1995) conducted a study to provide a system where the uses of plants (in their cultural context) can be described with consistent terms. This was done to make it easy to record plant use at a broad level.

The knowledge concerning patterns of use of plants are highlighted in ethnobotanical studies. Ethnobotany is the relational study of people's interactions with plant species as found in both ecological and social contexts (Davidson-Hunt, 2000). It has widely been employed for the documentation of local knowledge on the use of plants because it provides records of useful plants across the world (Cunningham, 2001). Ethnobotanical studies address traditional knowledge when making priorities within the local communities. It ensures that as part of local values, resources are used rationally to conserve biodiversity and ethnoknowledge (Ibrar & Sultan, 2007). It is also of cultural and economic value as it delivers a better understanding of the role plants play in the lives of the communities (Asase & Oteng-Yeboah, 2012). In indigenous pharmacopoeia, plants are widely used to treat the common symptoms of

cardiovascular, gastrointestinal, bronchopulmonary systems, urogenital and skin diseases (El-Hilaly *et al*., 2003).

Indigenous access to ecosystem services is important to West Africa. Particularly, there is a growing body of research from Ghana that uses ethnobotanical approaches to understand the connection between people and plants. Some reviewed Ghanaian studies have pointed out the worth of ethnobotanical studies in identifying plant derived ecosystem services. For instance, Boadu and Asase (2017) used ethnobotanical questionnaires to gather plant species used to treat and manage human diseases and ailments from traditional healers. Combining interviews and ground survey of species distribution, Asase *et al*. (2005) investigated the range and abundance of plant species used in the treatment of malaria where they discovered eight plant species which have not previously been documented to the wider scientific literature. Similarly, Agyare *et al*. (2009) conducted an ethnopharmacological study of Ghanaian plants for wound healing and discovered 104 plant species out of which only appeared the same as those recorded in previous centuries. Thus, plant-derived ecosystem services are frequently being discovered through ethnobotanical studies. The application of ethnobotanical studies in this regard contributes greatly to identifying diverse plant derived ecosystem services across human communities in Ghana.

1.2 Eco-informatics as a tool to link Ecosystem services and Ethnobotany

Eco-informatics denote incorporating innovative tools and approaches to analyse relevant biological, environmental and socioeconomic information (Michener & Jones, 2012). In recent times, Habitat Suitability Models also termed, Species Distribution Models (SDMs) or Ecological Niche Models have been widely employed in freshwater, oceanic and terrestrial habitats as management tools to predict the likelihood of species occurrences by combining observed presence data and estimates of environmental predictor variables (Elith & Leathwick, 2009) and to quantify habitat preferences. GARP, BIOCLIM, MARS, and Maximum Entropy (Maxent) have been developed as software for species distribution modelling (Guisan *et al*., 2017). SDMs have provided suitable insight and robust predictive ability in the spatial distributions of species with the presence of well-designed survey data and appropriate predictors (Elith & Leathwick, 2009). These applications are seen in several recent ethnobotanical studies where SDMs have been used to map possible ecological niches of

threatened medicinal plant species (Babar *et al*., 2012; Ray *et al*., 2011), to predict future availability of non-timber forest products in relation to climate and land use changes (Heubes *et al*., 2012) and to identify areas of specific cultural value to Australian Aborigines related to the abundant occurrence of medicinal plants (Gaikwad *et al*., 2011). Over the years, people have observed and recorded how the physical environment relates to species and their distribution (Elith & Leathwick, 2009). While ethnobotanical studies address species distribution in highlighting ecosystem services, published examples have specified that SDMs can perform well in describing natural distributions of species. This observation is solid if functionally important predictors are analysed with suitable models (Elith &Leathwick, 2009). However, the most important problem that species distribution modellers in tropical regions have frequently faced is the issue of a small number of species records. Little or no information about the distribution of species, what is termed the 'Wallacean shortfall' (Lomolino & Heaney, 2004), is widely identified as a major limitation to conservation planning in the tropics (Myers *et a.l*, 2000). In the context of mapping spatial distribution of ecosystem services, this shortfall makes it difficult to relate estimates of range size of plant-derived services to geographic range size.

Studies have identified several ethnomedicinal Ghanaian plant species with documented usages such as antibacterial, antifungal, antiviral and antiprotozoal agents, general treatment of skin diseases, dermatitis, burns, diarrhoea, fever (pyrexia) of unknown origin, wounds, cuts, sores, coughs and localized skin swellings; (Abbiw, 1990 , Dokosi, 1998, Mshana *et al*., 2000, Agbovie *et al.,* 2002). Van Andel *et al*. (2015) also described and quantified the Ghanaian market in herbal medicine. Likewise, Asase *et al*. (2005) documented traditional uses of plants for treating malaria through interviews. It is widely thought that there are still untapped potentials of plants yet to be discovered and documented as providing ecosystem services (Hein *et al*., 2006; Kozak *et al*., 2011). Compared to European species, there is also a huge disparity in the knowledge and occurrence of West African species. This is because there is a mismatch between data on plants and their site records which makes available knowledge and occurrence data unreliable (Asase & Peterson, 2016). Given the scarcity of quality data on the distribution of plants of Ghana, employing species distribution modelling (in mapping ecosystem services in relation to ethnobotany) as a novel approach could efficiently make use of available information to gather ideal species-rich hotspots and to further estimate the cultural value of a specific habitat. Hence, the SDM approach can be utilised more effectively to identify and

prioritize areas for conservation by integrating feedback from field experts (Gaikwad *et al*., 2011). Combining these approaches, thus projects a valuable way of predicting the distribution of ecosystem services in Ghana, which will seek to broaden local and global ecological views on the values of species in different ecosystems.

The aim of this research project was to combine ethnobotany and eco-informatic approaches to predict the spatial distribution of ecosystem services across Ghana. To achieve this aim, the following research questions were addressed: 1) Which ecosystem services have the most records of plant species across Ghana? 2) How does the distribution of ecosystem services relate to environmental variables and human demographics across Ghana? 3) To what extent can species distribution models be used to identify the distribution of plant-derived ecosystem services in Ghana? To the first question, it was hypothesized that medicinal benefits are most represented in literature as ecosystem services in Ghana. Secondly, temperature, annual precipitation, land cover, and human population were predicted to shape the distribution of ecosystem services and finally to the last question, it was hypothesized that SDMs can perform well in predicting the distribution of ecosystem services in the presence of functionally important predictors and accurate species data.

2. METHODS

2.1 Study Area

The study was conducted in Ghana, a tropical country located in West Africa. It lies between longitude 7.95°N and latitude 1.02°W and covers an area of 239,000 km^2 (Osei & Stein, 2017). Ghana has a total human population of 29,962,585 (Worldmeters, 2019). The country's terrestrial ecosystem spreads across two major biomes, the tropical high forest and the savannas which are divided into six agro-ecological zones (AEZs) that reflect the climate, vegetation, and soils. AEZs are geographical areas that show similar climatic conditions hence they define their ability to sustain vegetations (Sebastian, 2013). These zones are Sudan, Guinea and coastal savannahs; the forest-savannah transitional, the semi-deciduous forest and the high forest zones (Banson & Bosch, 2016) (Figure 1). The physical productive environment is determined by these zones, hence the relative advantage to produce different commodities (FASDEP II, 2007). AEZs are subjected to latitude, elevation, temperature seasonality and precipitation during the growing season of the vegetation (Sebastian, 2013). Ghana experiences annual precipitation ranging from 800 to 2400 mm distributed across the AEZs (Antwi-Agyei *et al*., 2012). The Sudan Savannah experiences rainfall between 500 and 700mm while the Guinea Savannah receives about 1000 mm annually. Precipitation of the Semi-Deciduous is 1400mm while the rainforest which supports diverse vegetation receives an annual rainfall of over 2000 mm. The Transition zone records annual rainfall of about 1200 mm and that of the Coastal Savannah is about 600 mm (Issaka et al., 2011) (Figure 1). The different plant species are supported by these AEZs and their associated climatic conditions. The tolerance and requirements of environmental conditions vary from species to species, hence their distribution and abundance changes with changing environmental gradients (Swaine, 1996) as indicated in Figure 1.

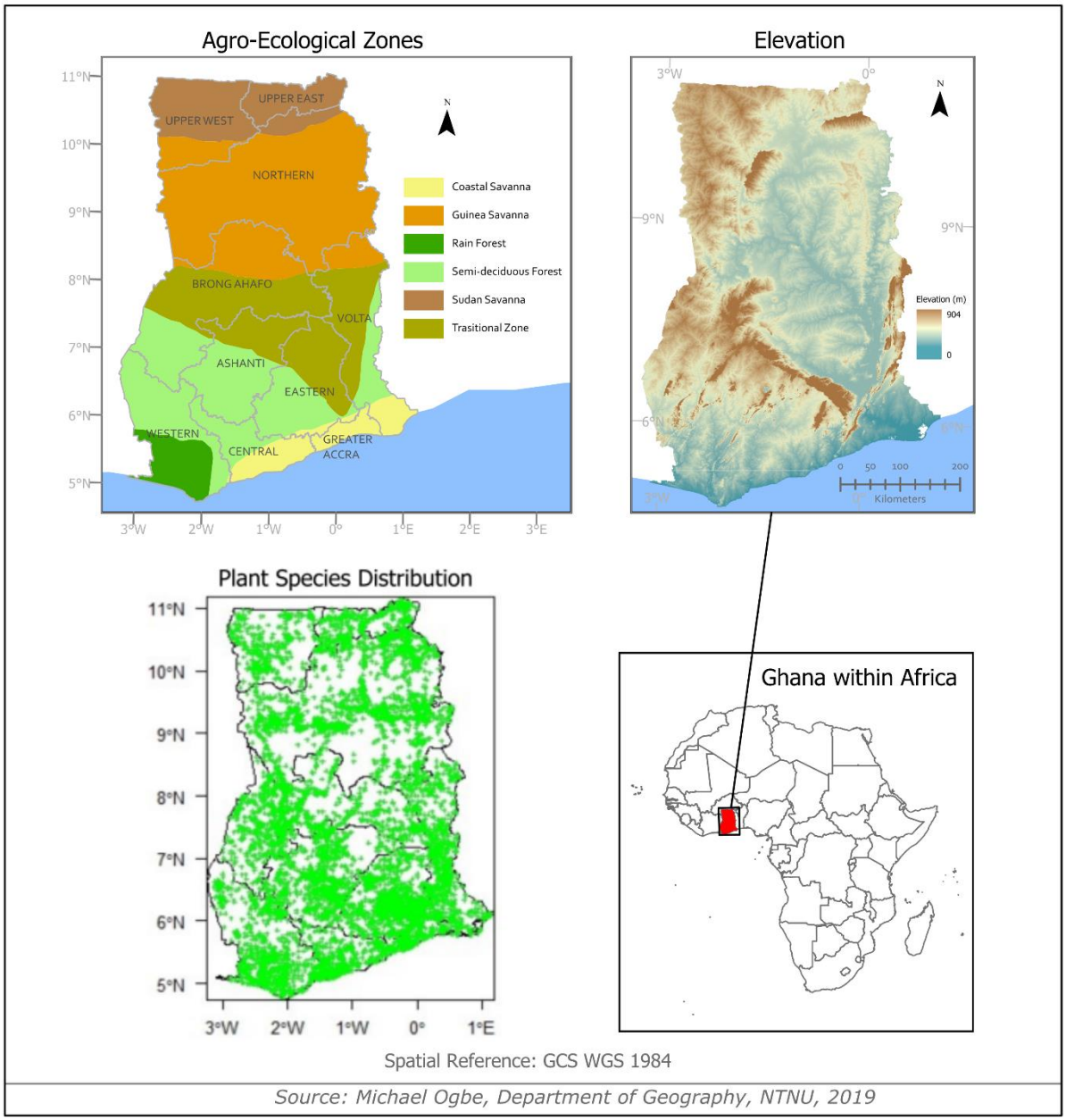

Figure 1: Map of the study area showing agro-ecological zones, elevation and plant species distribution in Ghana, West Africa. Species records were obtained from GBIF. The absence of a point does not mean the absence of all plants.

2.2 Literature data

Literature searches were carried out to obtain studies in the last decades that recorded plant species and their associated ecosystem services. The searches were performed only in English (the main language of Ghana and scientific research) in Web of Science, google scholar and Scopus from November 2017 to April 2018 with the search term **(Ethnopharm*OR Ethnobotan*OR Use*) AND plant*AND Ghana**. The term was combined using the Boolean operators 'OR' and 'AND'. An asterisk (*) indicates wildcard truncation. This allowed for

multiple endings of the word. For example, Ethnobotan* could thus mean ethnobotany, ethnobotanical, and so on.

In total, this search term resulted in 527 journal papers appearing in Web of Science, 3910 in Google Scholar and 786 in Scopus. In each case, the first 20 hits were examined for appropriate data. Most papers were rejected because: 1) they were concerned with Africa more generally, rather than focusing on Ghana and 2) studies focused on plant species-specific chemical properties with a limited context or direct observation of ethobotnical uses. The date range of papers was between 1999 and 2018. Emphasis was placed on plant species list with corresponding uses and specified locations while screening the titles, abstracts and full text. After screening, relevant papers were narrowed down to eight papers in Web of Science, 15 in google scholar and seven in Scopus. Identified relevant papers were downloaded and compiled in a folder. Five duplicates appeared among the three search engines and were removed. The remaining 25 were selected for this study. About 80% of the species names were repeated but their uses were diverse in the specified locations within Ghana. In all, 519 species with known botanical uses were obtained from the literature data. The obtained species were put into categories, groups and uses with attached references in a spreadsheet (Categories refer to terms based on major plant use, group denotes the fields were health care services were sought and uses refer to the actual value of obtained ecosystem services as indicated in Appendix 1).

2.3 Categorising ecosystem services

Cook (1995) defined plant use categories based on their cultural context (food, food additives, animal food, bee plants, invertebrate food, materials, fuels, social uses, vertebrate poisons, non-vertebrate poisons, medicines, environmental uses and gene sources) in a study to establish 13 major plant-use categories. Seven out of the 13 major plant-use were noted as ecosystem services provided by plants in most communities. Based on this, the study derived 8 categories from the obtained plant species: Agriculture, Construction, Culture, Energy, Food and nutrition, Health care, Social and Water purification. The number of species within categories ranged from the highest in health care obtained with 374 species and only one species for water purification *(*Figure 3*).* This number constitutes approximately 94% of the overall species used in this study. Given the overwhelming dominance of species contributing to medicinal ecosystem services, species in the health care category were further divided into 16 groups

based on clinical terms (SGU, 2017) to further examine this category. Thus, the resultant 16 groups of the health care category, viz anaesthetics, dentistry, dermatology, endocrinology, excipients, fever, immunology, infertility, malaria, musculoskeletal and cardiology, neurology, obstetrics and gynaecology, oncology, ophthalmology, orthopaedics, psychiatry (Appendix 1). The number of species within the groups ranged from the highest in malaria obtained with 215 species and only 1 species for psychiatry *(*Figure 3*).*

2.4 Species distribution modelling

2.4.1 Species Distribution Data

For this study, species for modelling were obtained from the Global Biodiversity Information Facility (GBIF). It is a digital biodiversity data repository and a portal to data on the locations of species acquired from both museums and observations (http://www.gbif.org). It is the leading international and widely funded resource that grants open access to all users with principles of clear data-sharing (Boakes *et al*., 2010). This study made use of October 2018 gbif records of Ghanaian plant species. At the assessed date (October 2018), there were approximately 151,667 plant species occurrences available for Ghana as compared to, for example, 68,980 occurrences for Togo (GBIF, 2018) which is a neighbouring West African country. Thus, the number of records in Ghana appears to be a stronger number. The occurrence data set (accepted names and synonyms) with geographic coordinates were mined from the portal, using the 'gbif' function of the 'dismo' library in R (Hijmans *et al*., 2005). This contained 99,426 gbif records for the 519 species gathered from the literature search. Some records were discarded because they fell outside the boundaries of Ghana. Others appeared as duplicates and were removed as well. Again, records with missing species were removed, followed by matching of the species to gbif records to identify species without matches. 18 species appeared without gbif data and alternative names were searched for using the 'TPL' function within the 'Taxonstand' package in R. There were also species presumably useful but non-native to Ghana, example *Allium sativum* and *Aloe vera* that remained unmatched. The number of records per species was summarised in the gbif data set, and final cleaning was done to obtain a final data set for mapping. Category and group count analyses were done using the final data set by counting gbif records per ecosystem category and group as well as the number of species within category and health care group. This resulted in 398 species with 63,390 gbif records as the final data used in building the model. Appendix 1 indicates gbif records for each

species obtained, and Figure 3 presents bar charts with the number of records in categories and healthcare groups.

2.4.2 Climate data

The study made use of environmental data from 'Worldclim'. 'WorldClim' is a freely accessible global dataset which is the most common source of bioclimatic data used widely by ecologists (Hijmans *et al*., 2005). It is geographically projected at a 30 arc seconds spatial resolution (~1 km at the equator). However, there are also coarser resolutions of 2.5, 5 and 10 arc minutes (Guisan *et al*., 2017). This study extracted environmental predictors at a spatial resolution of 2.5 arc minutes (~4.5 km at the equator) (Hijmans *et al*., 2005). Temperature and precipitation were selected because they represented the highest variation in the total climate. To prevent issues of multicollinearity that can result in over-fitting of the model (Dormann *et al*., 2013), collinearity was checked between the following climatic variables: temperature seasonality (standard deviation *100), temperature annual range (BIO5-BIO6), annual precipitation, precipitation of wettest month, precipitation of wettest quarter, precipitation of driest quarter and precipitation of coldest quarter. Temperature seasonality (BIO4) and precipitation of wettest quarter (BIO16) (Figure 2) were finally chosen for the model because they showed a Pearson's correlation value of 0.005 (Appendix 2).

2.4.3 Land cover data

Human-modified land cover has been a pressing issue of regional biodiversity (Sala *et al*., 2000; Thuiller, 2007) which influences the distribution of ecosystem services. It is important to include information on patterns of land cover, both spatially and temporally in species modelling and assessment (Thuiller *et al*., 2014). Therefore, digitized land cover maps of West Africa for 2000 (EROS, 2013) were downloaded and using the 'rgdal' package in R, the data for Ghana was cropped out. Data for 2000 was selected for the construction of the model because it was appropriate with respect to the population data. The original attributes table had 25 land-use categories that seemed over-complex because they produced very weak models. The land cover map was simplified to 6 major values to improve the model performance; forest (dominated by trees), savanna (sparse distribution of mixed wood and grassland), wetlands (includes water bodies and areas covered with water), landscape areas (which includes sandy areas, rocky lands and bare soils), agriculture (cultivated farmlands) and clouds (open areas above land use areas) (Figure 2).

2.4.4 Human population data

Most often, changes in vegetation cover result from pressures of anthropogenic activities (for example, population growth). Growing human population contributes to over-exploitation, resulting in increased frequencies of logging, burning, grazing, mining and commercial hunting that alters land-use and land cover and consequent degradation of ecosystems and loss of ecosystem services (Wood *et al*., 2013). This makes human population data as important as species occurrence data and landcover data. Using the gridded population of the world with a resolution of 30 seconds for the year 2000 (SEDAC, 2019), population data for Ghana was cropped and stacked up, also using 'rgdal' package in R. The population data were resampled to the same grid as climate variables (Figure 2).

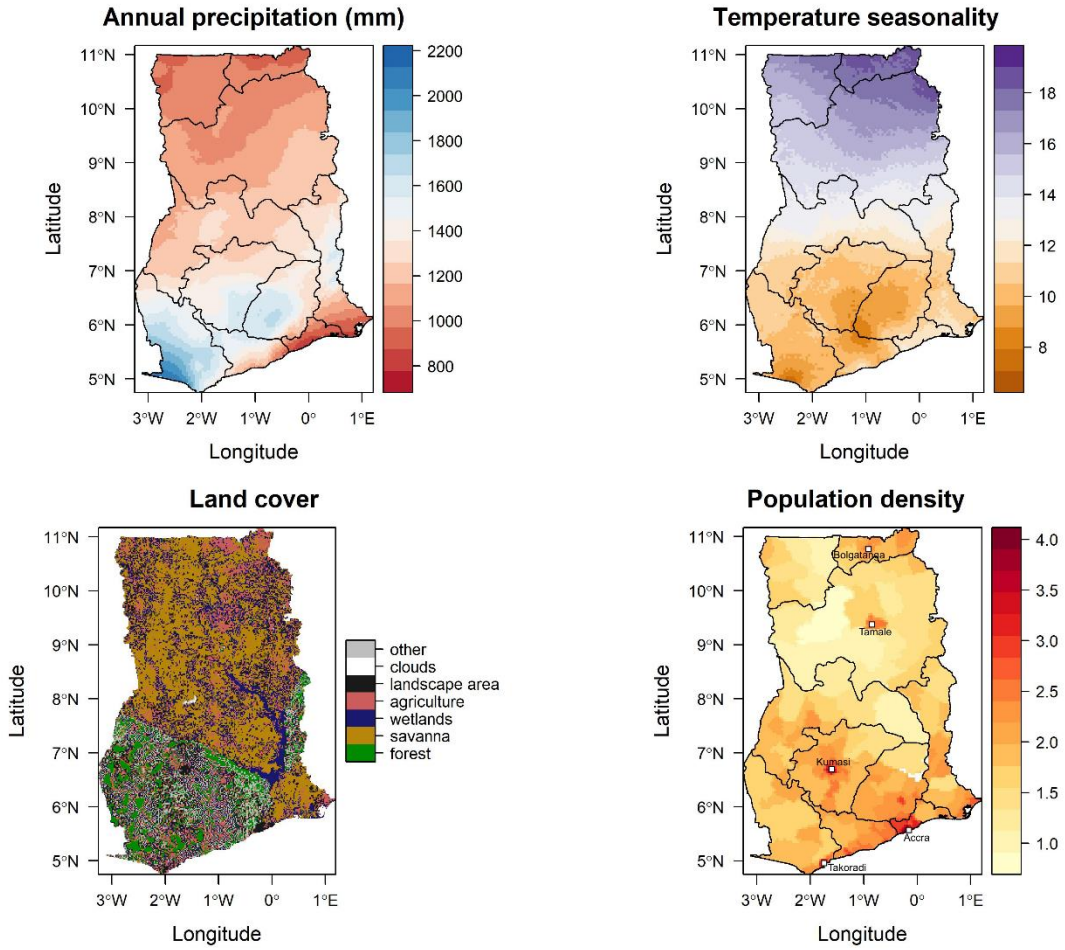

Figure 2: Distribution of environmental variables across Ghana analysed as part of ecosystem services distribution models. Temperature seasonality (standard deviation x 100) is a measure of temperature change over the course of the year. Human population density indicating capital regions with relatively high populations. Land cover attributes have been simplified by combining the different land cover types: Forest (gallery and riparian forest, swamp forest, degraded forest, thicket), Savanna (steppe, Sahelian short grass savanna, bowé, shrubland), Wetlands (consists of all waterbodies), Agriculture (irrigated agriculture, plantation, agriculture in shallows and recession woodland, cropland and fallow with oil palms), Landscape area (sandy area, rocky area, bare soil, open mine, settlements), clouds represent the vaporised atmosphere above the ground that influence the land types and others represent areas with small coverage.

2.4.5 Maximum Entropy (Maxent) modelling

SDMs link species' occurrence records and their corresponding environmental conditions at collection sites. The projected identified link between these two in geographic space allows predicting suitable habitat conditions for species' presence (Van Andel *et al*., 2015). To accomplish the aim of this study, modelling approaches that are effective with small sample sizes such as Maxent approach for modelling species niches and distributions were used to predict species ranges and map a spatial distribution of ecosystem services in Ghana. Maxent was first introduced by Philips et al (2004). Though it is not formally implemented in the R statistical software, the 'dismo' package can be used to run Maxent (Guisan *et al*., 2017). The reason for selecting Maxent is because, it is efficient in predicting areas within a region that satisfy the requirements of the species' ecological niche, and form part of the species' potential distribution accordingly (Anderson & Martínez-Meyer, 2004). It also estimates the species' realized distribution. So, for instance, it removes areas where the species is known to be absent owing to deforestation or other habitat destruction factors and land use changes (Phillips & Schapire, 2004). Moreover, it has proven best among most other modelling algorithms (Aguirre-Gutiérrez *et al*., 2013; Elith *et al*., 2011, 2006), even with the presence of few records (Wisz *et al*., 2008).

The model used in this study combined climate, land cover and human population data with the occurrence data. The study followed recommendations from recent studies regarding selecting model parameters and controlling for biases in occurrence records distributions (Phillips & Schapire, 2004). Eight species distribution models were run for each ecosystem service category and 16 for groups within the healthcare ecosystem service category *(*Figure 4 *and* Figure 5*)* using Maxent version 3.4.1. Species in each category were merged with the gbif records to a data frame. The results were cross-checked with the compiled table in excel to run basic Maxent with two predictors, landcover and human population. The output was used in the prediction of the habitat suitability of the species in each ecosystem category.

2.4.6 Maxent settings and model performance

Models were fitted and projected to current climates (Figure 4 and Figure 5) using the default regularization parameters linear, quadratic, hinge, product, and threshold; LQHPT. Model fitting was performed on the full data set (background data from GBIF). Five-fold cross-

validation was used to estimate errors around fitted functions and predictive performance (Elith *et al*., 2011). Beta multipliers ranging from 0.5 to 4.0 were tested in the model smoothing to obtain smooth response curves.

The model was evaluated with test statistics, AUC (Area Under the receiver operating characteristic Curve). The AUC gives a well discriminatory capacity between "good" and "bad" models, but not between good models (Marzban, 2004). Considering sensitivity; the proportion of true predicted presence *(Se)*, specificity; the proportion of true predicted absence (*Sp*), and commission and omission error; the proportion of absence wrongly predicted as presence (*1-Sp*), the AUC plots (*Se*) against (*1-Sp*) across all possible thresholds between 0 and 1. If the curve lies above the diagonal of no discrimination, then the model is viewed to discriminate better than chance i.e. if the AUC is higher than 0.5 (Jiménez-Valverde, 2012). Krzanowski & Hand (2009) give complete illustration details of the AUC methodology. In the case of this research, the AUC is calculated on presence vs. background data where the models are still ranked according to their AUC, i.e. the closer to 1, the better (Phillips *et al*., 2006). See an illustration of AUC with Water purification and Healthcare models in Appendix 2. Although this metric of model performance is widely used (Van Andel *et al*., 2015, Lobo *et al.,* 2008, Fielding & Bell, 1997), Phillips *et al* (2009) and Raes & Steege (2007) recommend that one cannot rely solely on the AUC values where there exist presence-only data, as applied in this study. Thus, further analysis was carried out by calculating the area of the convex hull (the smallest polygon that contains all points) of species within categories. The areas obtained in square kilometres were plotted against the AUC values within categories and healthcare groups. Models were performed for species within categories and groups with records greater than 15 to assess the contributions of each variable regarding the model performance. However, summaries for construction, culture, energy, food and nutrition, water purification and social are not present in Figure 6 because all species within these categories have records below 10. The resulting summaries (1^{st} quartile, median, mean, 3^{rd} quartile) of AUCs and variable contributions are presented along with full mode summaries in appendices.

3. RESULTS

3.1 Spatial distribution maps of plant species associated with 8 ecosystem service categories and 16 groups within the healthcare

H_1: Medicinal benefits of plants are most represented in literature as ecosystem services in Ghana.

Healthcare ecosystem service is represented by 374 species with 52,744 records while water purification is represented by 1 species with 190 records. Healthcare ecosystem service category represented 72% of all species and 83% of all records, followed by agriculture with 8% of all species and 5% of all records and the least for food and nutrition with 5% of all species and 3% of all records. The healthcare groups also presented oncology with 20% of all species and 25% of all records, followed by malaria with 24% of all species and 20% of all records and the least for dermatology with 17% of all species and 18% of all records (Figure 3).

Species distribution models predict suitable habitats for all the plants' species that provide ecosystem services in Ghana (Figure 4 *and* Figure 5*).* Predictions of plants within categories are confined to certain vegetation types and are seen to be distributed almost everywhere in Ghana except for water purification with a few distributions only at the south. The healthcare category, however, dominates with a lot of distributions all over the country (Figure 4). Also, the same pattern of distribution exists for the healthcare groups although models for fever, infertility, orthopaedics, endocrinology, dermatology, and anaesthetics predict suitable habitats of plants more evenly spread out through the whole study area (Figure 5*).* In all the models, the most suitable areas for plants are skewed further south and towards the coast. It is clearly seen that the regions with high human population density, such as Bolgatanga, Tamale, Kumasi, Takoradi, and Accra (*see from population density in* Figure 2) have high habitat suitability for the ecosystem service providing plants. Most especially, plant species that provide healthcare services are found at the south-east (capital of Ghana, Accra) (Figure 5). This is obvious within groups such as malaria, oncology, and dermatology. However, there is no plant distribution for the psychiatry, excipients and psychiatry groups in the mid to northern regions of Ghana. There are also no plant species in the western and Volta regions for the musculoskeletal and cardiology group. In general, the medicinal benefits of plants are easily noticed in the distribution models.

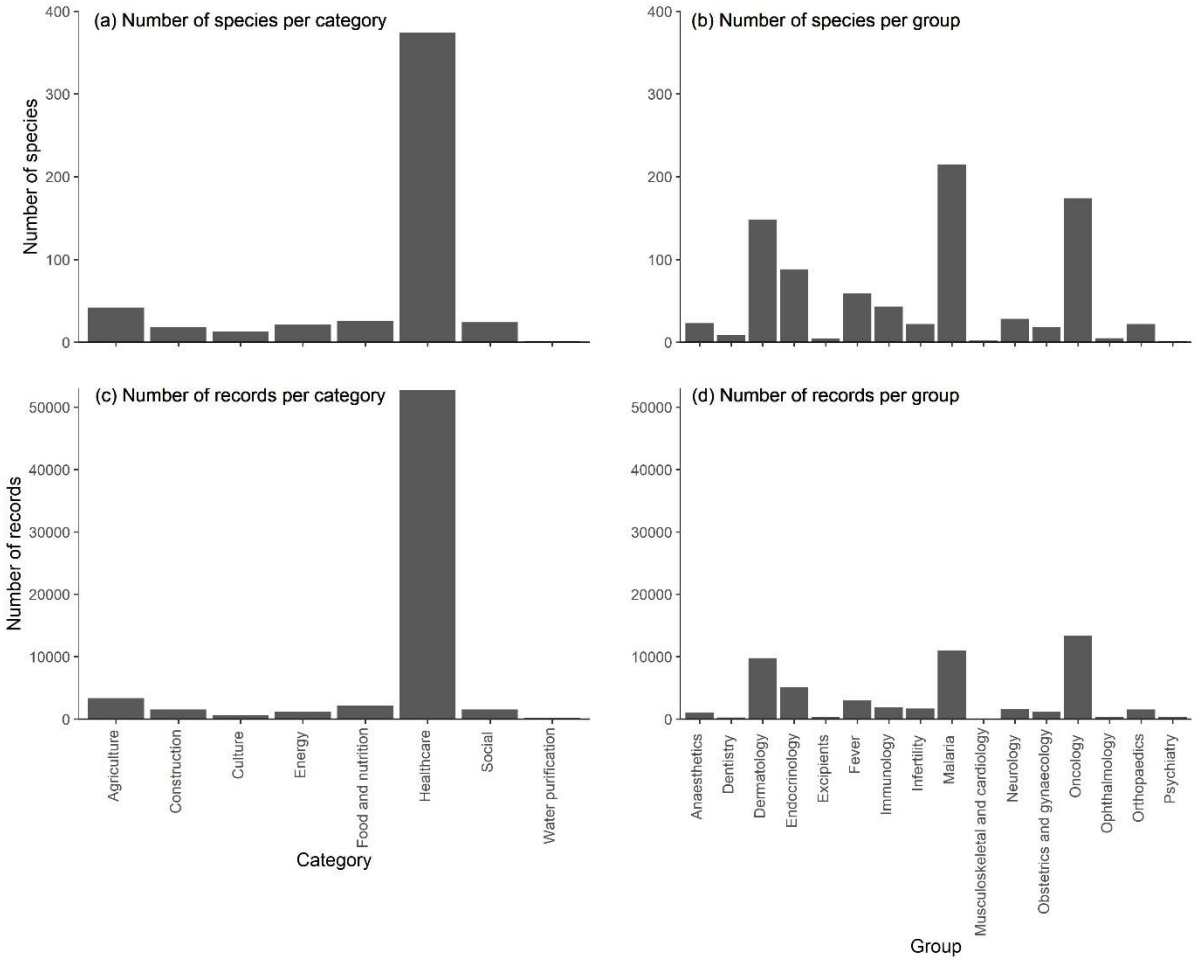

Figure 3: Number of species (a and b) and GBIF records (c and d) of plants in each ecosystem service category and health care groups. The number of species was obtained from 25 publications and the GBIF records were obtained from October 2018 occurrence data.

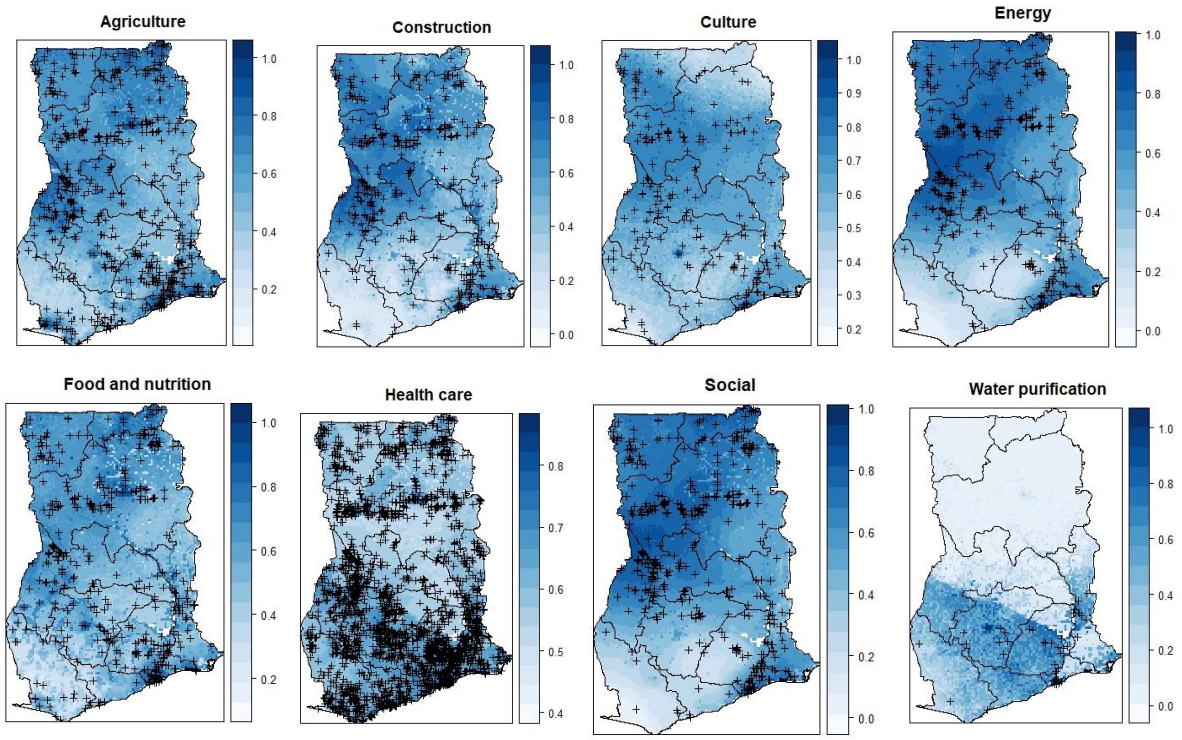

Figure 4: Habitat suitability prediction maps of plant species and their categories of ecosystem services in Ghana. The prediction maps were obtained with maxent modelling approach. Prediction is done in equal intervals from 0-1, from white (low) through light blue to dark blue (high). Crosses indicate species occurrence.

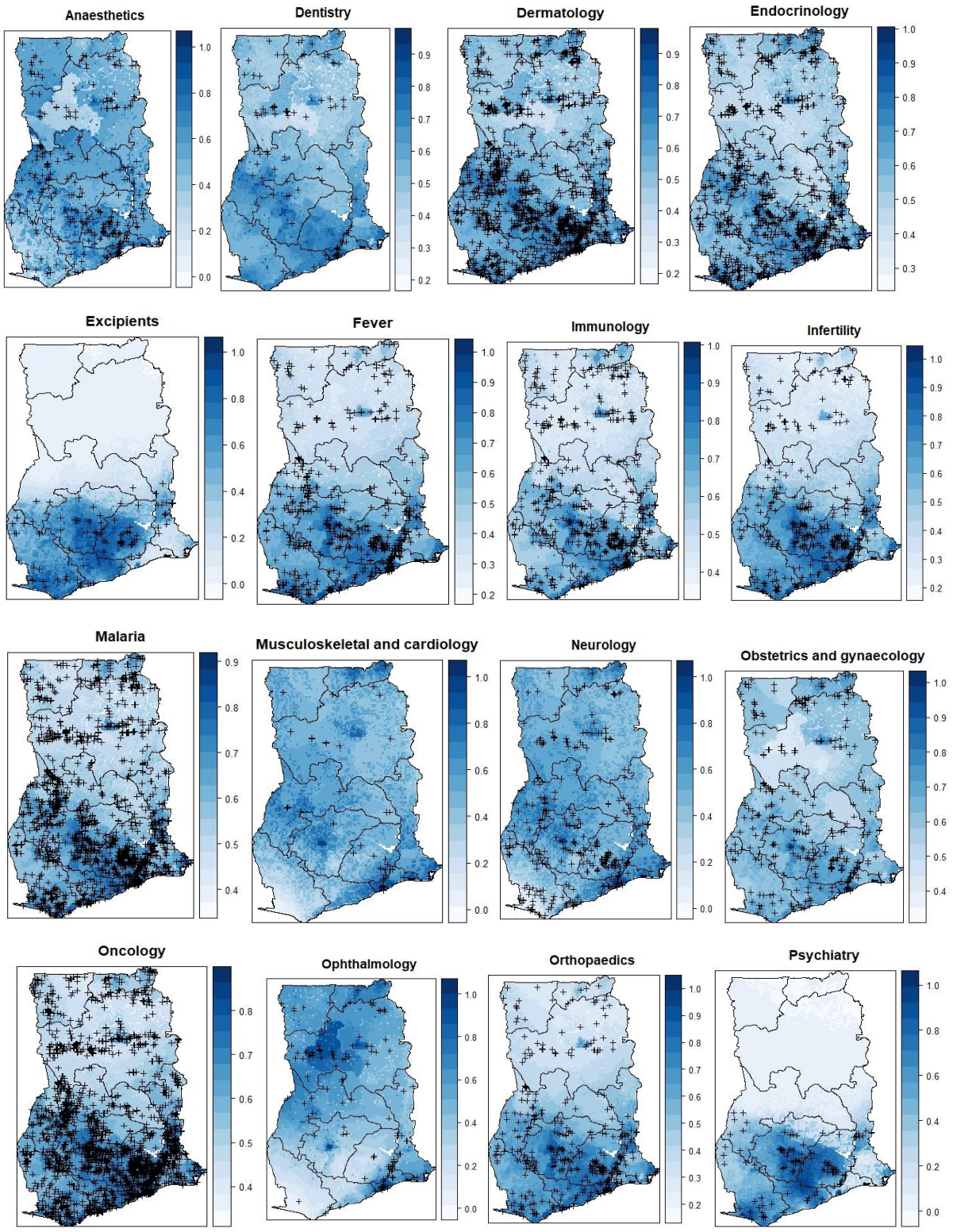

Figure 5: Habitat suitability prediction maps of plant species and their groups within healthcare in Ghana. The prediction maps were obtained with maxent modelling approach. Prediction is done in equal intervals from 0-1, from white (low) through light blue to deep-blue to blue-black (high). The cross indicates species records.

3.2 Contributions of climatic and human variables to plants that provide ecosystem services in Ghana.

H_2: Temperature, annual precipitation, land cover, and human population shape the distribution of ecosystem services

The analysis of variable contributions was made on species-specific distributions rather than the overall category and groups. Figure 6 is the output for 18 species specific distributions of individual species out of the overall 24 with more than 10 records. Modelling overall categories and groups produced a poor performance in relation to land cover, temperature, human population, and annual precipitation refer to section 3.3 below. Assessment of the variable contributions pointed out land cover and temperature as the most important to the ecosystem services distribution. For all 18 species, five were shaped by temperature which constitutes 28% and the remaining 13 were shaped by the land cover (72%). Temperature is an important variable for anaesthetics, dentistry, excipients, psychiatry and musculoskeletal and cardiology whiles land cover shapes malaria, agriculture, dermatology, endocrinology, orthopaedics, fever, healthcare, immunology, infertility, neurology, obstetrics and gynaecology, oncology and ophthalmology species. Particularly, land cover is responsible for the distribution of malaria species. The majority of these species are found in forested areas and a few distributions in savanna, agricultural and landscape areas (Figure 2).

However, percentage means in annual precipitation and human population alternate and in some cases are insignificant (< 1) (Appendix 5). This observation has been pointed out by the numerous outliers that exist in annual precipitation and human population for most plant-derived ecosystem service, concluding that their percentage contributions are outside the expected range.

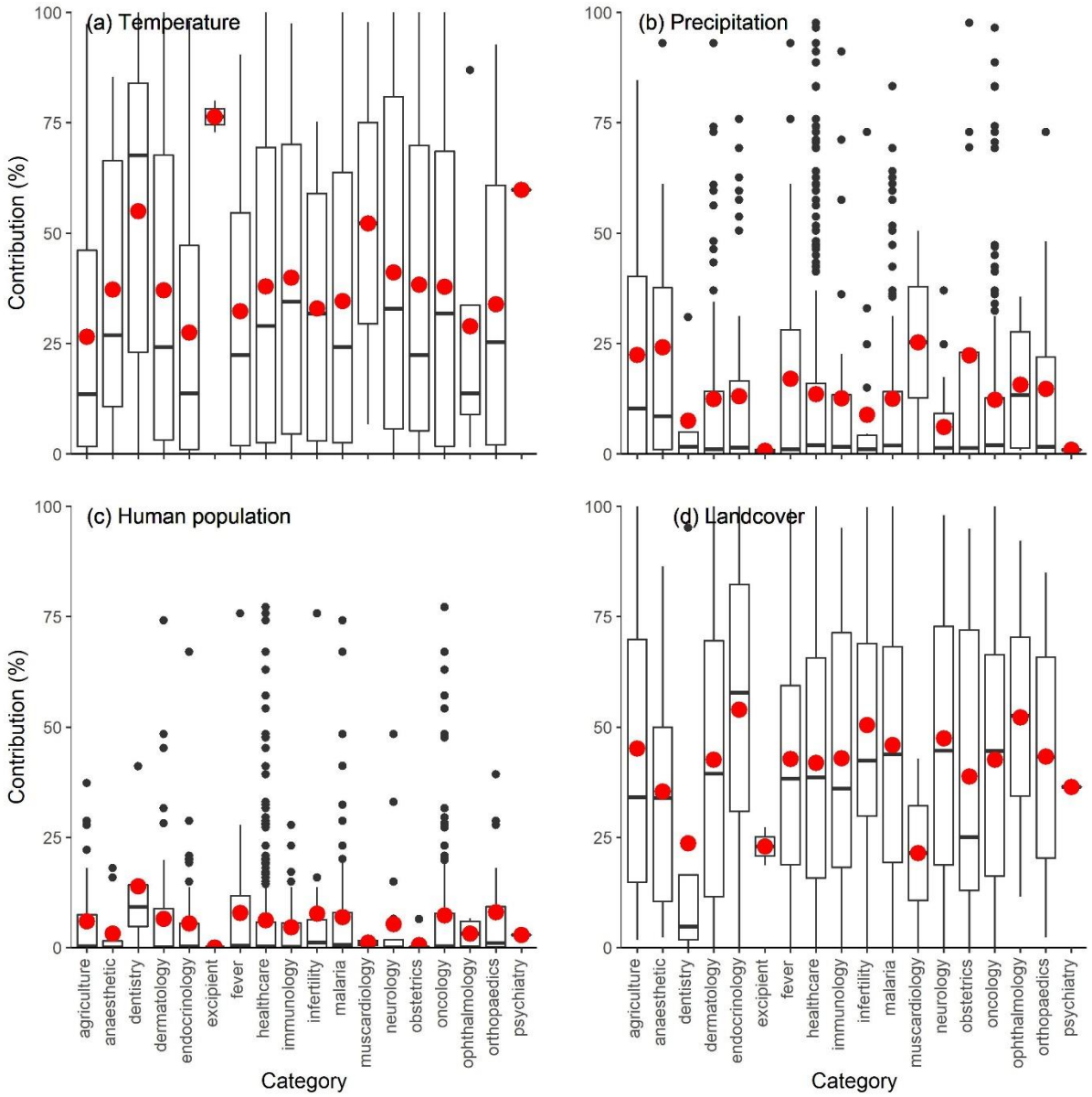

Figure 6: Box plots of 1st quartile, mean, median and 3rd quartile percentage contributions of variables to individual species models, summarised by ecosystem service categories. Red is mean, the median is shown by the line that divides the box into two parts, the lower and upper divisions of the median represent the 1st and 3rd quartile respectively, lines at the tip of the upper and lower boxes represent upper and lower whiskers respectively and outliers are represented by black dots.

3.3 The performance of species distribution models in identifying the distribution of plant-derived ecosystem services in Ghana.

H_3: SDMs can perform well in predicting the distribution of ecosystem services in the presence of functionally important predictors and accurate species data.

Species distribution model fits were found to be worse for categories with a higher number of species, a higher number of records and where the total species pool had a greater geographical extent (Figure 7). In the categories, water purification is represented by only one species. This species is also repeated for food and nutrition and construction (Appendix 1) with 190 records

and a geographic area of 59854.49 km^2, whiles in the groups, excipients is represented by four species which were repeated for culture and food and nutrition with 330 records and with a geographic area of 80794.95 km^2. The geographic extent is probably the strong factor controlling this relationship showing the threshold from water purification compared to the rest that has poor relationships. The good models of ecosystem services are represented by AUC values closer to 1. Thus, there are quite fewer ecosystem services with good models (Figure 7).

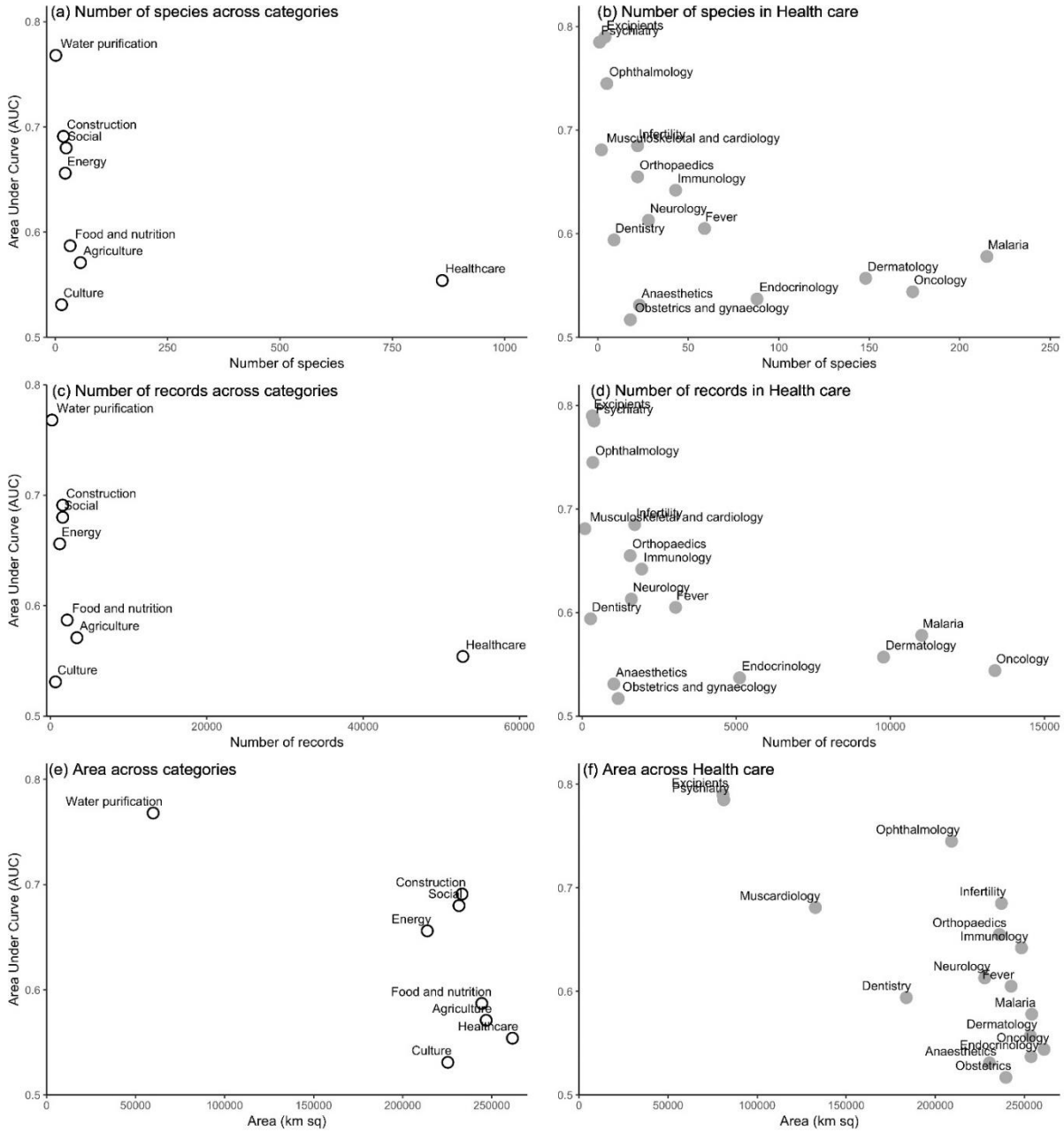

Figure 7: Plain circles represent categories and shaded circles represent healthcare groups. a) Plot of AUC values against the number of species in each ecosystem category AUC values range from 0.531 for Culture to 0.768 for Water purification. b) Plot of AUC values against the number of species in each healthcare group. AUC values range from 0.517 for Obstetrics and gynaecology to 0.790 for excipients. c)Plot of AUC against the number of records in categories. Records range from 190 for Water purification to 52744 for Healthcare d) Plot of AUC against the number of records in healthcare groups. Records range from 88 for Musculoskeletal and cardiology and 13393 for Oncology e) Plot of AUCs in categories against the area of convex hull in square km. f) Plot of AUC values in the healthcare groups against the area of convex hull in square km.

4. DISCUSSION

Highly suitable habitats are predicted for ecosystem services, indicating the medicinal benefits of plants as the most represented ecosystem service in Ghana. From the distribution maps (Figure 4 and Figure 5), there appear to be local differences in ecosystem services within Ghana, especially in Bolgatanga, Kumasi, Takoradi, and Accra. Temperature and land cover are important variables for the distribution of plants. However, landcover shapes 72% of individual species within the ecosystem services across Ghana. The predicted distributions with the climatic variables agree with the established view that SDMs are appropriate tools in identifying plant derived ecosystem services (Van Andel *et al*., 2015).

4.1 Spatial distribution of ecosystem services derived from plants in Ghana.

This study presented 72% of the 398 species as healthcare ecosystem services (Figure 2). Thus, plants play a very important role in delivering healthcare ecosystem services in Ghana (Mshana *et al*., 2001; PORSI, 1992). It is estimated that 70-95% of the world's rural population relies on plants for health care ecosystem services (Hamilton, 2004). The aforestated percentage provides evidence that healthcare benefits are mostly represented. Healthcare ecosystem services are almost evenly distributed in all the regions (Figure 4). From the groups (Figure 5), it can be concluded that healthcare ecosystem services are sought for the treatment of diverse ailments in all the regions of Ghana, ranging from normal headaches to cancer. (Agyare *et al*., 2018; Asase & Oteng-Yeboah, 2012, Barku *et al*., 2015, Appiah *et al*., 2017). In Ghana, malaria accounts for about 45% of all out-patients' attendance (Afrane et al., 2004). This awareness of malaria has resulted in the tapping of medicinal potentials of plants as a remedy. About 30% of species in healthcare constituting 215 species provide a cure to malaria. The distribution of malaria species is thus seen to be found in all the parts of Ghana (Figure 5*).* A number of these plants may be cultivated rather than harvested from the wild (Brown, 1992). Oncology presents the next highest number of species of 174, (about 20% of healthcare species) for the treatment of all cancers, followed by dermatology with 148 (17%) which are used for the treatment of all skin related diseases (Figure 5*).* Thus, the distribution highlights these healthcare ecosystem services.

It is interesting to note that, on a regional scale, ecosystem services are distributed in all the regions except for water purification that has no distributions for Upper East, Upper West, Northern, Brong Ahafo and Central regions. This is because species have not been found to occur in the Gbif records and the review of the literature found no data for water purification

in these regions. However, the Northern region is arid and, in most cases, access to quality water is an issue. Groundwater is the major source of water (Anku et al., 2009). Thus, the role of water purification will be important in the region.

Agricultural use of plants was mainly represented as livestock fodder in this study. It has been studied that trees and shrubs are of value in agriculture to livestock production (Komwihangilo *et al*., 1995). In Ghana, the Northern and Coastal savannas (*see in* Figure 1) are known for major livestock production and this can be related to the distribution of the agriculture ecosystem services (Figure 4). Also, considering the energy ecosystem service, 64% of the primary energy supply in Ghana is obtained from fuelwood (Duku et *al*., 2011). Yet, no plant species is specifically known for energy consumption; plant parts are only suitable for fuelwood based on preferences (Nerquaye-Tetteh et al., 2002). This suggests why the distribution of energy ecosystem service is seen as such (Figure 4). Like the energy ecosystem service, social and construction ecosystem services of plants are based on preferences related to which plant species are resistant to insect attacks (Asase & Oteng-Yeboah, 2012). Good quality species prolong the lifespan of finished products in the form of artefacts and building materials. This observation influences the distribution of the social and construction ecosystem services. The cultural use of plants (spiritual, magic, superstition and ceremonies) is a very common practice in Africa (McLaughlin, 1973). In Ghana, most ethnic groups have cultural beliefs associated with the use of plants, and this is depicted in the culture distribution in Figure 4. Rural Ghanaian communities extract food from plants and trade them across the country. If the maps highlighted rural areas, the food and nutrition ecosystem service would have been seen more in these rural communities. More so, the consumption of nutritive plant species varies across the regions in Ghana which is reflected in the distribution of food and nutrition ecosystem services in Figure 4.

4.2 The relationship between the distribution of plant-derived ecosystem services and environmental variables in Ghana.

Temperature and land cover are important variables in predicting plant-derived ecosystem services. Human-modified land cover has been a pressing issue of regional biodiversity (Sala *et al*., 2000; Thuiller, 2007). The land cover makes the most contributing to most of the species, hence ecosystem services. Relating this to malaria species, it is expected that increasing instances of malaria will cause humans to modify the distributions of species that provide

medicines to remedy the disease. Species distributions are however seen in forested, savanna, landscape areas and wetlands. Changes in these vegetations will cause a change in the distribution of species. An increase in temperature variation is likely to have little effect on species distribution as compared to land cover. Considering the current rate of land-use changes (Grainger, 2013) the patchy occurrence of some species may increase their ecosystem services value and become vulnerable, especially for malaria species. The land cover thus becomes an important variable to monitor plant derived ecosystem service. Also, malaria is an issue of concern in Ghana as well as Africa and it is known to increase with increasing precipitation. However, in Figure 7, the mean contribution of annual precipitation to the malaria model is 12.5%. Comparing this to the anaesthetic, the mean contribution of annual precipitation is 24.1%. From this, it can be deduced that annual precipitation does not have any impact on malaria species but perhaps the presence of some water bodies that have been captured under land cover increased the impact of land cover on malaria species to 46%.

In all the distribution, the Greater Accra region (Accra) is seen to have most of the ecosystem service distributions. Accra, like others (Kumasi, Sunyani, and Takoradi) is associated with changes in land use coupled with increasing population, likely to induce the vegetation.

4.3 SDMs as a tool in identifying the distribution of plant-derived ecosystem services in Ghana.

The SDMs predict the spatial distribution of plants that provide ecosystem services. Generally, SDMs are used to obtain hypotheses on either the realized or the potential distribution of species (Lobo *et al*., 2010). The principle of SDM is to relate the known locations of species with their environmental characteristics to estimate the response function and contribution of environmental variables (Austin, 2006), thus the ecosystem services distribution models estimate the fundamental species response to the environmental variables. Evaluating the models with AUC, water purification species have relatively good fits while those of healthcare have poor fits (Figure 7). Water purification gave an area of 59854.49km^2 within which plants can be found while healthcare gave an area of 261629.5km^2 which indicates the area of coverage of species that provide healthcare ecosystem service (Figure 7). It should be noted that water purification species were highlighted as few compared to healthcare species. Thus, there is a clear correspondence when inferring from the area of coverages, concluding that the fewer the number, the smaller the area of coverage which enhances a better performance of the SDMs.

Again, species within ecosystem services groups had a large range of habitat requirements which made their models not work well. The geographic extent of species, thus, projects the strong factor that controls the relationship between species numbers and records. Using the AUC concept, if a species is widespread and the likelihood of presence increases gradually with the predictor values, an accurate model will have low AUC values, which will only represent the true nature of the species distribution (Lobo *et al*., 2008). The AUC value for healthcare is seen to be a poor fit (Appendix 3). This observation is also seen within the healthcare where obstetrics and gynaecology, oncology and especially malaria have AUC of 0.576. Generally, species within the healthcare ecosystem have multiple uses that cause their models to perform poorly. Thus, the conclusion that information on the generalist or restricted distribution of a species along the range of predictor conditions in the study area is provided by the AUC but it does not provide information about the good performance of the model (Lobo *et al*., 2008).

4.4 Limitations of the study

First, there was a mismatch between species data, land cover and human population data. The yearly interquartile ranges of the species gathered from herbarium, natural history museums and opportunistic sampling obtained for the study, ranged between 1975 and 2010. However, the data on the human population and land cover were obtained for the year 2000. Combining these from different years contributed to the poor fits of the models. Land cover was an important variable and probably it is most likely to have changed over the period, compared to more gradual drying and warming of the climate. Thus, further evaluation of different land use across the years 1975, 2000, 2013 may improve the prediction power of the models.

Again, the land cover map had over-complex attributes that had to be simplified to 6 major values to improve the model performance. Additionally, most of the species had multiple uses. Hence, they were repeated within the groups and categories of ecosystem services. This affected the AUC values of the species making them fall below 0.5 thus, creating poor fits in the models.

5. RECOMMENDATION AND CONCLUSION

5.1 Recommendations

First, water purification, especially in the Northern part of Ghana, is a critical issue considering that this region is arid, and groundwater is the major source of water, further studies should be conducted to locate plant species that can be used to purify water for communities within the region. Again, the alarming rate of malaria has caused humans to cultivate plant species to provide a remedy to the disease. Future studies should prioritise modelling malaria species to ensure their conservation. Furthermore, most of the ecosystem services were shaped by land cover in this study. Land cover is an important variable which should be monitored and used as indicators of ecosystem services in future studies. Finally, it will be quite a good idea to also include soil types in modelling with SDMs that are projected to predict future climate and land use conditions. This will be of great value to monitor and manage the future availability of ecosystem services.

5.2 Conclusion

The species distribution models in this study provide the first spatial distribution maps of plant-derived ecosystem services in Ghana. Ecosystem services derived from plants are distributed in each of the 10 regions although the model fits for healthcare, culture, agriculture and food and nutrition were poor. Healthcare is most represented and suggests that the delivery of health care by plants is a valuable service in Ghana. Temperature and landcover were found to shape the distribution of these ecosystem services. Models of species within a large range of habitat requirement do not work well, likewise species with multiple uses. SDMs are suitable in predicting the changes in plant distribution with changing climate and land cover. Generally, the use of ethnobotanical studies in SDM is effective only when accurate species data are produced to be combined with appropriate environment variables. Considering that Ghana has few records, the SDM approach can widely be used in identifying the geographic locations of plant species which will serve to prioritize ecosystem services for livelihoods.

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APPENDICES

*Appendix 1: Categories, groups and uses of species obtained from literature search with attached number of records in Ghana from GBIF and references. *Jrnal=Journal, Int.=Internationa. Categories refer to terms based on major plant uses, group denote the fields were specific ecosystem services were sought and uses refer to the actual value of obtained ecosystem services.*

Species	**Category**	**Group**	**Use**	**Records**	**References**
Abelmoschus esculentus	Health care	Oncology	treating skin cancer	89	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Acacia gourmaensis	Energy	Fuel	used as fuel wood for cooking	54	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Acacia kamerunensis	Health care	Dermatology	treating measles	41	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Acacia nilotica	Energy	Fuel	used as fuel wood for cooking	5	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Acacia senegalensis	Health care	Fever	treating high fever	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Acalypha ciliata	Health care	Oncology	treating breast cancer	26	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Acanthospermum hispidum	Agriculture	Fodder	used as livestock feed	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Acanthospermum hispidum	Health care	Endocrinology	treating hunch backs	38	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Acanthospermum hispidum	Health care	Orthopaedics	treating rib pains	38	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Acanthospermum hispidum	Health care	Malaria	treating malaria	38	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 273-279
Achyranthes aspera	Health care	Dermatology	treating boils	20	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Adansonia digitata	Health care	Obstetrics & gynaecology	for bathing children for healthy growth	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Adansonia digitata	Food & nutrition	Food	fruits and leaves are taken as food	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Adansonia digitata	Health care	Oncology	treating stomach and breast cancer	25	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Adenia cissampeloides	Health care	Oncology	treating lung cancer	56	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Adenia lobata	Health care	Oncology	treating breast and skin cancer	81	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Adiantum L.	Health care	Dermatology	treating wounds	200	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572

Afraegle paniculata	Health care	Malaria	treating malaria	17	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 273-279
Afraegle paniculata	Health care	Malaria	treating malaria	17	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Aframomum melegueta	Health care	Oncology	treating brain and stomach cancer	16	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Aframomum melegueta	Food & nutrition	Food	used as spices	16	Freiesleben *et al*., 2015. Jrnal of ethnopharmacology (174) 561-568
Aframomum melegueta	Health care	Excipients	used alongside other medicinal plants	16	Freiesleben *et al*., 2015. Jrnal of ethnopharmacology (174) 561-568
Aframomum melegueta	Health care	Infertility	used as aphrodisiac	16	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Aframomum melegueta	Food & nutrition	Food	used as spices	16	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Aframomum melegueta	Health care	Malaria	treating malaria	16	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Afrostyrax lepidophyllus	Health care	Malaria	treating malaria	53	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Afrostyrax lepidophyllus	Health care	Neurology	for treating convulsions	53	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Afzelia africana	Health care	Fever	treating fever	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Agriculture	Fodder	used as livestock feed	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Energy	Fuel	used as fuel wood for cooking	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Construction	Building materials	used as roofing materials	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Social	Social use	used for carving artefacts	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Culture	Cultural purposes	used for secret spiritual rituals	39	Asase & Oteng-Yeboah, 2012.Ghana Ethnobotany Research and Applications (10) 605-618
Afzelia africana	Health care	Endocrinology	treating piles	39	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Afzelia africana	Health care	Immunology	treating pneumonia	39	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Afzelia africana	Health care	Malaria	treating malaria	39	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 73-279
Ageratum conyzoides	Health care	Endocrinology	treating diarrhoea	31	Henry *et al*., 2013). Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Ageratum conyzoides	Health care	Malaria	treating malaria	31	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Ageratum conyzoides	Health care	Oncology	treating skin, cervical, stomach, breast, lung cancer	31	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Alafia multiflora	Health care	Oncology	treating breast, brain, skin and lung cancer	13	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Albizia ferruginea	Health care	Endocrinology	treating diarrhoea	21	Boadu & Asase, 2017.Evidence-Based Complementary and Alternative Medicine 2017
Albizia zygia	Health care	Endocrinology	treating stomach upset	59	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Albizia zygia	Health care	Infertility	treating sexual weakness	59	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Albizia zygia	Health care	Dermatology	treating skin ulcer	59	Henry *et al*., 2013). Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Alchornea cordifolia	Health care	Dermatology	treating dermatitis	71	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Alchornea cordifolia	Health care	Dermatology	treating herpes zoster, ringworm	71	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Alchornea cordifolia	Health care	Dermatology	treating wounds	71	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Alchornea cordifolia	Health care	Oncology	treating brain and stomach cancer	71	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Alchornea cordifolia	Health care	Dermatology	treating wounds and infections	71	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Alchornea cordifolia	Health care	Endocrinology	treating diarrhoea	71	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Alchornea cordifolia	Health care	Dermatology	treating skin ulcer	71	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Alchornea cordifolia	Health care	Endocrinology	treating constipation	71	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alchornea cordifolia	Health care	Fever	treating fever	71	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alchornea cordifolia	Health care	Malaria	treating malaria	71	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alchornea cordifolia	Health care	Dermatology	treating wounds	71	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alchornea cordifolia	Health care	Endocrinology	treating piles	71	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alchornea cordifolia	Health care	Malaria	treating malaria	71	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Allium cepa	Health care	Ophthalmology	treating blurred vision	10	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Allium cepa	Health care	Endocrinology	treating diabetes mellitus	10	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Allium cepa	Health care	Oncology	treating stomach and skin cancer	10	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Allium cepa	Health care	Immunology	treating tuberculosis	10	Nguta et al., 2015. Ghana Inter. Jrnal of mycobacteriology 4(2) 116-123
Allium cepa	Health care	Malaria	treating malaria	10	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Allium sativum	Health care	Endocrinology	treating diabetes mellitus	0	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Allium sativum	Health care	Neurology	treating convulsion	0	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Allium sativum	Health care	Immunology	treating tuberculosis	0	Nguta et al., 2015. Ghana Inter. Jrnal of mycobacteriology 4(2) 116-123
Allium sativum	Health care	Malaria	treating malaria	0	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Aloe vera	Health care	Dermatology	treating ringworm and skin rashes	0	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Aloe vera	Health care	Endocrinology	treating diabetes mellitus	0	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Aloe vera	Health care	Endocrinology	treating diabetes	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Aloe vera	Health care	Fever	treating typhoid fever	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Aloe vera	Health care	Endocrinology	treating baldness	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Aloe vera	Health care	Malaria	treating malaria	0	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Aloe vera	Health care	Immunology	treating tuberculosis	0	Nguta et al., 2015. Ghana Inter. Jrnal of mycobacteriology 4(2) 116-123
Alstonia boonei	Health care	Dermatology	treating skin rashes	117	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Alstonia boonei	Health care	Dermatology	treating measles	117	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Alstonia boonei	Health care	Malaria	treating malaria	117	Asase & Asafo-Agyei, 2011. Journal of herbs, spices & medicinal plants 17(2) 85-111
Alstonia boonei	Health care	Dermatology	Cleansing of suppurating wounds and open fractures	117	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Alstonia boonei	Health care	Malaria	treating malaria	117	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alstonia boonei	Health care	Dermatology	treating shingles	117	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alstonia boonei	Health care	Dermatology	treating measles	117	Appiah *et al*., 2017. Sustainability 9(8) 1468
Alstonia boonei	Health care	Infertility	treating sexual disorder	117	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Alstonia boonei	Health care	Oncology	treating breast and skin cancer	117	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Alstonia boonei	Health care	Dermatology	treating skin ulcer	117	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Alstonia boonei	Health care	Malaria	treating malaria	117	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Alternanthera pungens	Health care	Dermatology	treating stomach ulcer	45	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Alternanthera sessilis	Health care	Oncology	treating stomach cancer	94	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Amaranthus graecizans	Health care	Oncology	treating brain cancer	17	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Amaranthus hybridus	Health care	Oncology	treating breast cancer	10	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Amaranthus spinosus	Health care	Malaria	treating malaria	37	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Amaranthus spinosus	Health care	Malaria	treating malaria	37	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Amaranthus viridis	Health care	Oncology	treating prostate, breast, brain and stomach cancer	38	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Amphimas pterocarpoides	Health care	Oncology	treating head cancer	22	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Anacardium occidentale	Health care	Anaesthetics	treating headache	23	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Anacardium occidentale	Health care	Oncology	treating liver cancer	23	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ananas comosus	Health care	Malaria	treating malaria	2	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Ananas comosus	Health care	Fever	treating fevers	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Ananas comosus	Health care	Oncology	treating lung cancer	2	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ananas comosus	Health care	Malaria	treating malaria	2	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Aningeria altissima	Health care	Dermatology	used to arrest bleeding	8	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Annona muricata	Health care	Malaria	treating malaria	34	Asase & Asafo-Agyei, 2011. Journal of herbs, spices & medicinal plants 17(2) 85-111
Annona muricata	Health care	Endocrinology	treating diabetes mellitus	34	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Annona muricata	Health care	Oncology	treating stomach cancer	34	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Annona reticulata	Health care	Oncology	Treating stomach and prostate cancer	5	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Annona senegalensis	Health care	Oncology	treating stomach, throat, skin and breast cancer	395	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Annona senegalensis	Health care	Dermatology	treating skin rashes	395	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Annona senegalensis	Construction	Building materials	used as roofing materials	395	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Annona senegalensis	Agriculture	Food	fruits are taken as food	395	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Annona senegalensis	Health care	Dermatology	treating swollen navel	395	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815

Anogeissus leiocarpa	Health care	Oncology	treating skin cancer	60	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Anogeissus leiocarpa	Health care	Malaria	treating malaria	60	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 273-279
Anogeissus leiocarpus	Health care	Dermatology	treating wounds	0	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Anogeissus leiocarpus	Health care	Malaria	treating malaria	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Anogeissus leiocarpus	Energy	Fuel	used as fuelwood for cooking	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Anogeissus leiocarpus	Construction	Building materials	used for roofing buildings	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Anogeissus leiocarpus	Health care	Endocrinology	treating diarrhoea	0	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Anthocleista nobilis	Health care	Malaria	treating malaria	43	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Antiaris africana	Health care	Endocrinology	treating stomach upset	27	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Antiaris africana	Health care	Endocrinology	treating anaemia	27	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Antiaris toxicaria	Health care	Oncology	treating breast cancer	57	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Antrocaryon micraster	Health care	Dermatology	treating chicken pox	33	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Arachis hypogaea	Health care	Oncology	treating skin cancer	276	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Arachis hypogaea	Agriculture	Post-harvest protectant	used as protectants of stored grains	276	Cobbinah *et al*., 1999. NRI Bulletin 77
Argemone mexicana	Health care	Oncology	treating throat and breast cancer	14	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Argemone mexicana	Health care	Malaria	treating malaria	14	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Asparagus flagellaris	Health care	Immunology	treating tuberculosis	28	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Asparagus flagellaris	Health care	Dentistry	treating toothaches	28	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Aspilia africana	Health care	Oncology	treating lung cancer	109	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Astraea lobata	Health care	Oncology	treating skin cancer	58	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Asystasia gangetica	Health care	Oncology	treating prostate cancer	111	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Azadirachta indica	Health care	Fever	treating fevers	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Azadirachta indica	Health care	Malaria	treating malaria	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Azadirachta indica	Health care	Dentistry	used as chewing stick	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Azadirachta indica	Health care	Endocrinology	treating diabetes mellitus	31	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Azadirachta indica	Health care	Fever	treating fever	31	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Azadirachta indica	Health care	Dermatology	treating wounds	31	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Azadirachta indica	Health care	Malaria	treating malaria	31	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 273-279
Azadirachta indica	Health care	Malaria	treating malaria	31	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Azadirachta indica	Health care	Oncology	treating skin, breast and bone cancer	31	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Azadirachta indica	Health care	Malaria	treating malaria	31	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Azadirachta indica	Health care	Malaria	treating malaria	31	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Azadirachta indica	Health care	Fever	treating fever	31	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Azadirachta indica	Agriculture	Post-harvest protectants	protecting stored products	31	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Azadirachta indica	Health care	Immunology	treating tuberculosis	31	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Azadirachta indica	Health care	Malaria	treating malaria	31	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Azadirachta indica	Agriculture	Post-harvest protectant	used as protectants of stored grains	31	Cobbinah *et al*., 1999. NRI Bulletin 77
Balanites aegyptiaca	Health care	Oncology	treating stomach cancer	42	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Balanites aegyptiacus	Health care	Malaria	treating malaria	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Balanites aegyptiacus	Social	Artefacts	used for carving stools	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Balanites aegyptiacus	Agriculture	Pest control	used for rodent poisoning	0	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Balanites aegyptica	Health care	Dermatology	treating herpes zoster	1	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Bambusa vulgaris	Health care	Oncology	treating stomach cancer	7	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Bambusa vulgaris	Health care	Malaria	treating malaria	7	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Bambusa vulgaris	Health care	Malaria	treating malaria	7	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Bambusa vulgaris	Health care	Fever	treating fevers	7	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Bambusa vulgaris	Health care	Malaria	treating malaria	7	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Baphia nitida	Health care	Endocrinology	treating retarded growth	147	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Baphia nitida	Health care	Fever	treating fever and high blood fever	147	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233

Baphia nitida	Health care	Oncology	treating breast, skin, prostate, stomach, brain throat cancer	147	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Barleria cristata	Health care	Oncology	treating stomach cancer	11	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Berlinia confusa	Health care	Obstetrics & gynaecology	treating menstrual pains	31	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Berlina confusa	Health care	Orthopaedics	treating rheumatism	31	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Berlina confusa	Health care	Fever	treating fever	31	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Berlina confusa	Health care	Endocrinology	used as purgative	31	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Bertiera racemosa	Health care	Oncology	treating breast and skin cancer	62	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Bidens pilosa	Health care	Oncology	treating breast cancer	57	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Bidens pilosa	Health care	Immunology	treating tuberculosis	57	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Bidens pilosa	Health care	Malaria	treating malaria	57	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Biophytum petersianum	Health care	Dermatology	treating swollen jaw	28	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Blighia sapida	Health care	Dermatology	treating cuts	67	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Blighia sapida	Health care	Oncology	treating lung, breast, stomach, colorectal and skin cancer	67	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Blighia sapida	Health care	Endocrinology	treating stomach upset	67	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Blighia unijugata	Health care	Oncology	treating breast and throat cancer	47	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Blighia welwitschii	Health care	Dermatology	treating measles	27	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Boerhavia diffusa	Health care	Endocrinology	treating diabetes mellitus	34	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Bombax buonopozense	Health care	Neurology	treating stoke	22	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Bombax buonopozense	Health care	Endocrinology	treating diabetes	22	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Bombax buonopozense	Health care	Immunology	treating candidiasis	22	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Bombax buonopozense	Health care	Malaria	treating malaria	22	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Bombax costatum	Food & nutrition	Food	leaves are taken as vegetables	51	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Bombax costatum	Social	Artefacts	used as walking sticks	51	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Boerhavia coccinea	Health care	Endocrinology	treating diarrhoea	49	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Borreria stricta	Health care	Dermatology	treating black spots on skin	0	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Brachyachne obtusiflora	Health care	Oncology	treating skin and genital cancer	0	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Bridelia ferruginea	Health care	Endocrinology	treating diarrhoea	111	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Bridelia ferruginea	Health care	Malaria	treating malaria	111	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Bridelia ferruginea	Health care	Dermatology	treating wounds	111	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Bridelia ferruginea	Health care	Endocrinology	treating diabetes mellitus	111	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Bryophyllum pinnatum	Health care	Oncology	treating skin and stomach cancer	21	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Burkea africana	Health care	Dermatology	treating sore mouths	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Burkea africana	Health care	Dentistry	used for cleaning the teeth	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Burkea africana	Energy	Fuel	used as fuel wood for cooking	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Caesalpinia benthamiana	Health care	Oncology	treating liver cancer	43	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Caesalpinia bonduc	Health care	Oncology	treating genital and prostate cancer	18	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Caesalpinia bonduc	Culture	Cultural purposes	used for rituals	18	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Caesalpinia bonduc	Health care	Neurology	treating convulsions	18	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Caesalpinia bonduc	Health care	Obstetrics & gynaecology	used to prevent miscarriage	18	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Caesalpinia bonduc	Health care	Dermatology	for treating skin rashes on baby	18	Van Andel *et al*., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Calotropis gigantea	Health care	Endocrinology	treating heart burns	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Calotropis procera	Health care	Dermatology	treating boils	36	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Calotropis procera	Health care	Oncology	treating stomach and skin cancer	36	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Capsicum annuum	Agriculture	Post-harvest protectants	protecting stored products	101	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Capsicum annuum	Health care	Oncology	treating throat cancer	101	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Capsicum annuum	Agriculture	Post-harvest protectant	used as protectants of stored grains	101	Cobbinah *et al*., 1999. NRI Bulletin 77

Capsicum frutescens	Health care	Oncology	treating breast cancer	8	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Capsicum frutescens	Health care	Endocrinology	treating constipation	8	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Capsicum frutescens	Health care	Anaesthetics	treating severe stomach aches	8	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Capsicum frutescens	Health care	Malaria	treating malaria	8	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Capsicum frutescens	Health care	Endocrinology	treating diarrhoea	8	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Capsicum frutescens	Health care	Dermatology	treating boils	8	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Carapa procera	Health care	Orthopaedics	treating body pains	52	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Carapa procera	Health care	Oncology	treating breast cancer	52	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Carica papaya	Health care	Malaria	treating malaria	9	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Carica papaya	Health care	Malaria	treating malaria	9	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Carica papaya	Health care	Endocrinology	treating diabetes mellitus	9	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Carica papaya	Health care	Malaria	treating malaria	9	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Carica papaya	Health care	Endocrinology	used as anthelmintic	9	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Carica papaya	Health care	Malaria	treating malaria	9	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Carica papaya	Health care	Dermatology	treating swelling fingers	9	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Carica papaya	Health care	Malaria	treating fevers	9	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Carica papaya	Health care	Immunology	treating worm infestations	9	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Carica papaya	Health care	Malaria	treating malaria	9	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Carica papaya	Health care	Oncology	treating stomach, breast, skin and prostate	9	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cassia alata	Health care	Dermatology	treating herpes zoster, eczema, mycosis	10	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia alata	Health care	Obstetrics & gynaecology	treating menstrual disorder	10	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Cassia alata	Health care	Infertility	treating fertility problem	10	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Cassia alata	Health care	Dermatology	treating skin ulcer	10	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Cassia alata	Health care	Dermatology	treating wounds and infections	10	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111

Cassia mimosoides	Health care	Orthopaedics	treating fractures	138	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Cassia occidentalis	Health care	Immunology	treating guinea worm diseases	40	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia occidentalis	Health care	Dermatology	treating wounds	40	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia occidentalis	Health care	Dermatology	treating wounds and infections	40	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia podocarpa	Health care	Dermatology	treating wounds and dressing sores	29	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia podocarpa	Health care	Dermatology	treating skin ulcers	29	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cassia sieberiana	Health care	Malaria	treating malaria	61	Asase *et al*., 2005. Jrnal of Ethnopharmacology 99(2) 273-279
Cassia sieberiana	Health care	Anaesthetics	treating stomach aches	61	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cassia sieberiana	Construction	Building materials	used for roofing buildings	61	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cassia sieberiana	Health care	Fever	treating fever	61	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cassia sophera	Agriculture	Post-harvest protectant	used for preserving food	21	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Cassia sophera	Agriculture	Post-harvest protectants	protecting stored products	21	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Cassia tora	Health care	Orthopaedics	treating rib pains	29	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Casuarina equisetifolia	Health care	Oncology	treating brain cancer	8	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cedrela odorata	Agriculture	Post-harvest protectant	used as protectants of stored grains	7	Cobbinah *et al*., 1999. NRI Bulletin 77
Ceiba pentandra	Health care	Orthopaedics	treating rib pains	37	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Ceiba pentandra	Health care	Dermatology	treating hernia	37	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ceiba pentandra	Food & nutrition	Food	leaves are taken as vegetables	37	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Celtis mildbraedii	Health care	Dermatology	treating hernia	43	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Celtis mildbraedii	Health care	Immunology	treating pneumonia	43	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Cercestis afzelii	Health care	Immunology	treating gonorrhoea	24	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Chamaecrista nigricans	Agriculture	Post-harvest protectant	used for preserving food	15	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Chamaecrista nigricans	Agriculture	Post-harvest protectants	protecting stored products	15	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Chenopodium ambrosioides	Health care	Dermatology	treating skin infections	16	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111

Chenopodium ambrosioides	Health care	Dermatology	treating wounds	16	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Chenopodium ambrosioides	Health care	Immunology	treating tuberculosis	16	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Chromolaena odorata	Health care	Dermatology	teating wounds	25	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Chromolaena odorata	Health care	Malaria	treating malaria	25	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Chromolaena odorata	Health care	Dermatology	treating cuts	25	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Chromolaena odorata	Health care	Fever	treating fevers	25	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Chromolaena odorata	Health care	Oncology	treating skin cancer	25	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Chromolaena odorata	Agriculture	Post-harvest protectant	used as protectants of stored grains	25	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Chromolaena odorata	Health care	Endocrinology	treating diarrhoea	25	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Chromolaena odorata	Health care	Dermatology	treating skin ulcer	25	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Chromolaena odorata	Agriculture	Nutrient release and organic matter amendments	used to improve soil fertility	25	Quansah *et al*., 2001. Biological agriculture & horticulture 19(2) 101-113
Chromolaena odorata	Health care	Fever	treating typhoid fever	25	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Chromolaena odorata	Health care	Dermatology	used to stop bleeding	25	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Chromolaena odorata	Health care	Malaria	treating malaria	25	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cissampelos mucronata	Health care	Oncology	treating skin cancer	64	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Citrullus lanatus	Health care	Endocrinology	treating constipation	99	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Citrus aurantiifolia	Health care	Dermatology	treating boils	4	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Citrus aurantiifolia	Health care	Dermatology	treating chicken pox	4	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Citrus aurantiifolia	Health care	Fever	treating fever	4	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Citrus aurantiifolia	Health care	Oncology	treating breast, skin and throat cancer	4	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Citrus aurantiifolia	Health care	Malaria	treating malaria	4	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Citrus aurantiifolia	Agriculture	Post-harvest protectant	used as protectants of stored grains	4	Cobbinah *et al*., 1999. NRI Bulletin 77
Citrus limon	Health care	Oncology	treating breast and prostate cancer	0	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Citrus limon	Health care	Malaria	treating malaria	0	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Citrus sinensis	Health care	Oncology	treating cervical, brain, throat, prostate and stomach cancer	0	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Citrus sinensis	Agriculture	Post-harvest protectants	protecting stored products	0	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Citrus sinensis	Health care	Endocrinology	treating constipation	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Citrus sinensis	Agriculture	Post-harvest protectant	used as protectants of stored grains	0	Cobbinah *et al*., 1999. NRI Bulletin 77
Clausena anisata	Health care	Malaria	treating malaria	46	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cleistopholis patens	Agriculture	Post-harvest protectant	used as protectants of stored grains	100	Cobbinah *et al*., 1999. NRI Bulletin 77
Cleistopholis patens	Health care	Malaria	treating malaria	100	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Cleistopholis patens	Health care	Dermatology	treating hernia	100	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Cleistopholis patens	Health care	Endocrinology	treating impaired growth	100	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Cleistopholis patens	Health care	Malaria	treating skin and stomach cancer	100	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cleistopholis patens	Health care	Malaria	treating malaria	100	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Clerodendrum capitatum	Health care	Oncology	treating breast and skin cancer	60	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cnestis ferruginea	Health care	Endocrinology	treating dysentery	105	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Cnestis ferruginea	Health care	Endocrinology	treating diarrhoea	105	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Cnestis ferruginea	Health care	Oncology		105	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cochlospermum planchonii	Social	Artefacts	used for making ropes	61	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cochlospermum tinctorium	Health care	Malaria	treating malaria	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cochlospermum tinctorium	Health care	Malaria	treating fevers	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Cochlospermum tinctorium	Social	Artefacts	used for making ropes	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Coccoloba ascendens	Health care	Neurology	treating convulsion	0	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Cocos nucifera	Health care	Malaria	treating malaria	1	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cocos nucifera	Health care	Immunology	treating tuberculosis	1	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Cocos nucifera	Agriculture	Post-harvest protectant	used as protectants of stored grains	1	Cobbinah *et al*., 1999. NRI Bulletin 77
Cocos nucifera	Health care	Oncology	treating stomach and lung cancer	1	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Coix lacryma-jobi	Health care	Immunology	treating tuberculosis	39	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Cola gigantea	Health care	Anaesthetics	treating waist pains	35	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Cola gigantea	Health care	Dermatology	treating stomach ulcer	35	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Cola gigantea	Health care	Malaria	treating malaria	35	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cola nitida	Health care	Oncology	treating lungs and skin cancer	58	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cola nitida	Health care	Malaria	treating malaria	58	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Colocasia esculenta	Health care	Oncology	treating prostate, breast, throat, skin cancer	218	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Combretum dolichopetalum	Health care	Dermatology	treating wounds	46	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Combretum ghasalense	Health care	Anaesthetics	treating stomach aches	13	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Combretum ghasalense	Health care	Dermatology	treating cuts	13	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Combretum ghasalense	Agriculture	Fodder	used for feeding livestock	13	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Combretum ghasalense	Construction	Building materials	used for roofing buildings	13	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Combretum ghasalense	Health care	Malaria	treating malaria	13	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Combretum ghasalense	Health care	Malaria	treating malaria	13	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Combretum micranthum	Health care	Dermatology	treating wounds	14	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111

Combretum micranthum	Health care	Immunology	treating guinea worm	14	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Combretum molle	Health care	Oncology	treating breast cancer	43	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Combretum molle	Health care	Musculoskeletal & cardiology	treating fractures	43	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Combretum mucronatum	Health care	Malaria	treating malaria	144	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Combretum platypterum	Health care	Oncology	treating skin and lung cancer	47	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Combretum racemosum	Health care	Oncology	treating throat and breast cancer	110	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Combretum smeathmanni	Health care	Dermatology	treating wounds	13	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Commiphora Africana	Health care	Oncology	treating lung cancer	1	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Copaifera salikounda	Health care	Fever	treating high fever	23	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Copaifera salikounda	Health care	Endocrinology	treating piles	23	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Corchorus olitorius	Health care	Fever	treating fever	34	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6)1313-1329
Corchorus olitorius	Health care	Anaesthetics	treating waist pains	34	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1313-1329
Corchorus olitorius	Health care	Anaesthetics	treating stomach aches	34	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1313-1329
Corchorus olitorius	Food & nutrition	Food	leaves are taken as vegetables	34	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1313-1329
Corchorus olitorius	Health care	Dermatology	treating wounds	34	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Cordia millenii	Health care	Oncology	treating lung cancer	16	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cordia myxa	Health care	Oncology	treating stomach, brain and breast cancer	28	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cordia vignei	Health care	Oncology	treating prostate cancer	17	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Corynanthe pachyceras	Health care	Oncology	treating stomach cancer	64	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Crateva religiosa	Health care	Immunology	treating leprosy	12	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Crateva religiosa	Health care	Dermatology	treating swollen parts of the body	12	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Crescentia cujete	Health care	Dermatology	treating wounds	4	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572

Crossopteryx febrifuga	Agriculture	Post-harvest protectant	used as protectants of stored grains	105	Cobbinah *et al*., 1999. NRI Bulletin 77
Crossopteryx febrifuga	Health care	Malaria	treating malaria	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Crossopteryx febrifuga	Energy	Fuel	used as fuel wood for cooking	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Crossopteryx febrifuga	Social	Artefacts	used for carving artefacts	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Crossopteryx febrifuga	Health care	Oncology	treating prostate cancer	105	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Crotalaria macrocalyx	Health care	Immunology	treating pneumonia	63	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Croton hirtus	Health care	Oncology	treating prostate, skin, breast and throat cancer	0	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cryptolepis sanguinolenta	Health care	Malaria	treating malaria	8	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cryptolepis sanguinolenta	Health care	Dermatology	treating wounds and infections	8	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Cryptolepis sanguinolenta	Health care	Malaria	treating malaria	8	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cucurbita maxima	Health care	Oncology	treating lungs and head cancer	0	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cussonia bancoensis	Health care	Oncology	treating brain cancer	45	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Cussonia barteri	Health care	Endocrinology	treating piles	16	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Cyathula prostrata	Health care	Malaria	treating malaria	81	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cyclosorus afer	Health care	Malaria	treating malaria	43	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Cymbopogon citratus	Health care	Malaria	treating malaria	2	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Cymbopogon citratus	Health care	Fever	treating fever	2	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cymbopogon citratus	Health care	Obstetrics & gynaecology	used for cleansing after child birth	2	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Cymbopogon citratus	Health care	Malaria	treating malaria	2	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346

Cymbopogon giganteus	Health care	Immunology	treating tuberculosis	120	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Cymbopogon schoenanthus	Agriculture	Post-harvest protectants	protecting stored products	59	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Cyperus articulatus	Health care	Immunology	treating tuberculosis	33	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Cyperus esculentus	Health care	Fever	treating typhoid fever	8	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Cyperus rotundus	Health care	Oncology	treating stomach and lung cancer	52	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Daniellia ogea	Culture	Cultural purposes	used for rituals	14	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Daniellia oliveri	Culture	Cultural purposes	seeds are used as necklace for babies that cry often	64	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Daniellia oliveri	Energy	Fuel	used as fuel wood for cooking	64	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Daniellia oliveri	Social	Artefacts	used for carving artefacts	64	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Datura innoxia	Agriculture	Post-harvest protectant	used as protectants of stored grains	7	Cobbinah *et al*., 1999. NRI Bulletin 77
Desmodium adscendens	Health care	Neurology	treating asthma	58	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Desmodium adscendens	Health care	Oncology	treating prostate, breast, throat and brain cancer	58	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Detarium microcarpum	Health care	Malaria	treating malaria	125	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Detarium microcarpum	Food & nutrition	Food	fruits are taken raw	125	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Detarium microcarpum	Construction	Building materials	used for roofing buildings	125	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Detarium microcarpum	Social	Artefacts	used for carving artefacts	125	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Dialium dinklagei	Health care	Oncology	treating skin cancer	54	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Dichrostachys cinereal	Health care	Infertility	used as aphrodisiac	69	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Dichrostachys cinereal	Health care	Fever	used to clear phlegms	69	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Dichrostachys glomerata	Social	Artefacts	making walking stick	27	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Dioscorea alata	Health care	Oncology	treating skin cancer	418	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Dioscorea bulbifera	Health care	Oncology	treating skin, prostate and stomach cancer	40	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Dioscorea cayenensis	Health care	Oncology	treating brain cancer	1324	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Dioscorea cayenensis	Health care	Oncology	treating breast, skin, prostate and liver cancer	1324	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Dioscorea dumetorum	Health care	Malaria	treating malaria	83	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Dioscorea dumetorum	Health care	Oncology	treating breast cancer	83	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Diospyros mespiliformis	Health care	Orthopaedics	treating rib pains	70	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Diospyros mespiliformis	Health care	Anaesthetics	treating stomach aches	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Health care	Dermatology	treating cuts	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Food & nutrition	Food	fruits are taken raw	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Energy	Fuel	used as fuel wood for cooking	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Culture	Cultural purposes	leaves are used for secret spiritual rituals	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Construction	Building materials	used for roofing buildings	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Diospyros mespiliformis	Social	Artefacts	used for carving drums	70	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Discoglypremna caloneura	Health care	Neurology	treating stroke	34	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Discoglypremna caloneura	Health care	Infertility	treating female infertility	34	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Dissotis rotundifolia	Health care	Immunology	treating tuberculosis	77	Nguta *et al*., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Dracaena arborea	Health care	Dermatology	treating stomach ulcer	22	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Drypetes aubrevillei	Health care	Neurology	treating stroke	44	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Drypetes floribunda	Health care	Obstetrics & gynaecology	treating miscarriage	43	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017

Dysphania ambrosioides	Health care	Oncology	treating breast, brain, stomach and throat cancer	16	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Eclipta alba	Health care	Ophthalmology	treating eye diseases	50	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Eclipta alba	Health care	Endocrinology	treating constipation	50	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Elaeis guineensis	Health care	Dermatology	treating wounds	18	Barku *et al*., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Elaeis guineensis	Health care	Dermatology	treating boils	18	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Elaeis guineensis	Health care	Neurology	treating blurred vision	18	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Elaeis guineensis	Health care	Oncology	treating skin and genital cancer	18	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Elaeis guineensis	Health care	Malaria	treating malaria	18	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Elaeis guineensis	Agriculture	Post-harvest protectant	used as protectants of stored grains	18	Cobbinah *et al*., 1999. NRI Bulletin 77
Elaeophorbia drupifera	Health care	Dermatology	treating skin infections, Guinea worm	42	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Elaeophorbia drupifera	Health care	Dermatology	treating wounds and infections	42	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111
Emilia sonchifolia	Health care	Oncology	treating stomach and skin cancer	43	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Emilia sonchifolia	Health care	Malaria	treating malaria	43	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Entada abyssinica	Health care	Oncology	treating breast cancer	59	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Entandrophragma angolense	Health care	Oncology	treating prostate, skin, breast, stomach and throat cancer	44	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Entandrophragma cylindricum	Health care	Oncology	treating lung and skin cancer	37	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Eremospatha macrocarpa	Health care	Oncology	treating skin cancer	52	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Erythrina senegalensis	Health care	Oncology	treating head cancer	62	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ethulia conyzoides	Health care	Oncology	treating lung, skin and breast cancer	40	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Euadenia eminens	Health care	Infertility	treating low sperm count	69	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Eugenia caryophyllatus	Health care	Endocrinology	treating diarrhoea	0	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36

Euphorbia heterophylla	Health care	Oncology	treating throat, prostate, skin and breast cancer	35	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Euphorbia hirta	Health care	Endocrinology	treating diabetes mellitus	76	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Euphorbia hirta	Health care	Oncology	treating stomach, prostate, skin, breast and throat cancer	76	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Euphorbia hirta	Health care	Malaria	treating malaria	76	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Euphorbia hyssopifolia	Health care	Oncology	treating skin, prostate, breast and throat cancer	16	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ficus asperifolia	Health care	Oncology	treating skin, breast and lung cancer	38	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ficus asperifolia	Health care	Dermatology	treating wounds	38	Annan & Houghton, 2008. Jrnal of Ethnopharmacology 119(1) 141-144
Ficus elastica	Health care	Oncology	treating stomach, prostate and lungs	2	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ficus exasperata	Health care	Oncology	treating breast cancer	66	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ficus exasperata	Health care	Neurology	treating asthma	66	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ficus exasperata	Health care	Neurology	treating cataracts	66	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ficus exasperata	Health care	Dermatology	treating skin ulcer	66	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Ficus exasperata	Health care	Malaria	treating malaria	66	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Ficus gnaphalocarpa	Health care	Malaria	treating malaria	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ficus gnaphalocarpa	Agriculture	Fodder	feeding livestock	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ficus gnaphalocarpa	Health care	Malaria	treating malaria	31	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ficus natalensis	Health care	Oncology	treating breast cancer	35	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ficus platyphylla	Health care	Malaria	treating malaria	33	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ficus sur	Health care	Obstetrics & gynaecology	inducing the production of abundant breast milk	79	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ficus sycomorus	Health care	Malaria	treating malaria	70	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Funtumia elastica	Health care	Malaria	treating malaria	76	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Funtumia elastica	Health care	Oncology	treating skin, throat, stomach and breast cancer	76	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Garcinia kola	Health care	Oncology	treating breast and skin cancer	17	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Gardenia ternifolia	Health care	Dermatology	treating ulcers	56	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Gardenia ternifolia	Health care	Immunology	treating syphilis	56	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Gardenia ternifolia	Health care	Dermatology	treating body itches	56	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Gardenia ternifolia	Health care	Dermatology	treating wounds and infections	56	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Gardenia ternifolia	Health care	Malaria	treating malaria	56	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Gardenia ternifolia	Health care	Malaria	treating malaria	56	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Gardenia ternifolia	Food & nutrition	Food	fruits are taken raw	56	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Glyphaea brevis	Health care	Oncology	treating brain and skin cancer	133	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Gomphrena celosioides	Health care	Malaria	treating malaria	12	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Gongronema latifolium	Health care	Immunology	treating pnemonia	54	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Gongronema latifolium	Health care	Neurology	treating cough	54	Addo-Fordjour *et al*., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Gossypium arboreum	Health care	Oncology	treating stomach and throat	5	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Gossypium arboreum	Health care	Dermatology	treating wounds	5	Annan & Houghton, 2008. Jrnal of Ethnopharmacology 119(1) 141-144
Gossypium arboreum	Health care	Dermatology	treating skin ulcer	5	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Gossypium hirsutum	Health care	Orthopaedics	treating osteoarthritis	57	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Gossypium hirsutum	Health care	Infertility	treating infertility	57	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Gossypium hirsutum	Health care	Orthopaedics	treating rib pains	57	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Grewia carpinifolia	Water purification	Water treatment	stems are used as flocculant	190	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Grewia carpinifolia	Food & nutrition	Food	fruits are taken raw	190	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Grewia carpinifolia	Construction	Building materials	sap is used for painting and decorating buildings	190	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Griffonia simplicifolia	Health care	Oncology	treating breast cancer	81	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Griffonia simplicifolia	Health care	Infertility	treating impotence	81	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Griffonia simplicifolia	Health care	Anaesthetics	treating headaches	81	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Griffonia simplicifolia	Agriculture	Post-harvest protectant	used as protectants of stored grains	81	Cobbinah et al., 1999. NRI Bulletin 77
Grossera vignei	Health care	Malaria	treating malaria	40	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Gymnanthemum amygdalinum	Health care	Malaria	treating malaria	18	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Haematostaphis barteri	Health care	Malaria	treating malaria	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Haematostaphis barteri	Food & nutrition	Food	fruits are taken raw	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Haematostaphis barteri	Health care	Malaria	treating malaria	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Hannoa undulata	Health care	Dermatology	treating boils	40	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Heliotropium indicum	Health care	Dermatology	treating erysipelas, thrush, Herpes zoster	60	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Heliotropium indicum	Health care	Malaria	treating malaria	60	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Heliotropium indicum	Health care	Dermatology	treating wounds	60	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Heliotropium indicum	Health care	Neurology	treating convulsion	60	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Heliotropium indicum	Health care	Oncology	treating skin, breast, prostate, stomach and throat cancer	60	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Heritiera utilis	Health care	Endocrinology	treating kwashiorkor	57	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Hibiscus asper	Health care	Neurology	treating the eye when cobra spits into it	51	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Hibiscus asper	Food & nutrition	Food	leaves are taken as vegetable	51	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Hibiscus asper	Social	Artefacts	used for making ropes	51	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Holarrhena floribunda	Health care	Oncology	treating breast, brain and stomach cancer	157	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Hoslundia opposita	Health care	Oncology	treating lung, brain and skin cancer	93	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Hoslundia opposita	Health care	Dermatology	treating dermatitis	93	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Hygrophila auriculata	Health care	Immunology	treating tuberculosis	57	Nguta et al., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Hyptis pectinata	Health care	Oncology	treating skin, brain and breast cancer	45	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Hyptis spicigera	Health care	Malaria	treating malaria	50	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Hyptis spicigera	Health care	Malaria	treating malaria	50	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Indigofera pulchra	Health care	Malaria	treating malaria	40	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Indigofera pulchra	Health care	Malaria	treating malaria	40	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ipomoea eriocarpa	Health care	Obstetrics & gynaecology	treating menstrual pains	32	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Isoberlinia doka	Health care	Dermatology	treating boils	89	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Jatropha curcas	Health care	Dermatology	treating cuts and wounds	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Jatropha curcas	Health care	Dentistry	treating sore gums	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Jatropha curcas	Health care	Malaria	treating malaria	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Jatropha curcas	Health care	Dermatology	treating hernia	25	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Jatropha curcas	Health care	Dermatology	treating wounds	25	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Jatropha curcas	Health care	Malaria	treating malaria	25	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Jatropha curcas	Health care	Oncology	treating skin, breast, prostate, stomach and brain cancer	25	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Jatropha gossypiifolia	Health care	Fever	treating high fever	52	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Jatropha gossypiifolia	Health care	Malaria	treating malaria	52	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Jatropha gossypiifolia	Health care	Malaria	treating malaria	52	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Jatropha gossypiifolia	Health care	Oncology	treating stomach cancer	52	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Justicia carnea	Health care	Malaria	treating malaria	0	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346

Justicia extensa	Health care	Oncology	treating stomach cancer	65	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Justicia flava	Health care	Dermatology	treating wounds	154	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Justicia flava	Health care	Malaria	treating malaria	154	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Kalanchoe integra	Health care	Oncology	treating breast cancer	0	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Khaya anthotheca	Health care	Dermatology	treating skin rashes	19	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Khaya anthotheca	Health care	Fever	treating skin fevers	19	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Khaya anthotheca	Health care	Fever	treating typhoid	19	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Khaya anthotheca	Health care	Fever	treating loss of appetite	19	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Khaya anthotheca	Health care	Malaria	treating malaria	19	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Khaya anthotheca	Health care	Oncology	treating breast and prostate cancer	19	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Khaya senegalensis	Health care	Dermatology	treating snake bites	47	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Khaya senegalensis	Health care	Endocrinology	treating anaemia	47	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Khaya senegalensis	Construction	Building materials	used for roofing buildings	47	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Khaya senegalensis	Social	Artefacts	used for carving drums	47	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Khaya senegalensis	Health care	Infertility	treating male infertility	47	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Khaya senegalensis	Health care	Malaria	treating malaria	47	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Khaya senegalensis	Health care	Oncology	treating breast, prostate and lung cancer	47	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Khaya senegalensis	Health care	Endocrinology	used as blood tonic	47	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Khaya senegalensis	Health care	Infertility	used as aphrodisiac	47	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Khaya senegalensis	Health care	Fever	treating fever	47	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Khaya senegalensis	Agriculture	Post-harvest protectants	protecting stored products	47	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Khaya senegalensis	Health care	Malaria	treating malaria	47	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Khaya senegalensis	Agriculture	Post-harvest protectant	used as protectants of stored grains	47	Cobbinah et al., 1999. NRI Bulletin 77
Kigelia africana	Health care	Infertility	treating infertility	34	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Kigelia africana	Health care	Oncology	treating skin and prostate cancer	34	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Kigelia africana	Health care	Endocrinology	treating piles	34	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Landolphia owariensis	Health care	Malaria	treating malaria	53	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233

Landolphia owariensis	Health care	Immunology	treating gonorrhoea	53	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Landolphia owariensis	Health care	Oncology	treating skin cancer	53	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Lannea acida	Food & nutrition	Food	fruits are taken raw	55	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lannea acida	Energy	Fuel	used as fuelwood for cooking	55	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lannea acida	Health care	Malaria	treating malaria	55	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lannea kerstingii	Food & nutrition	Food	fruits are taken raw	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lannea kerstingii	Energy	Fuel	used as fuelwood for cooking	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lannea kerstingii	Social	Artefacts	used for carving stools	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lantana camara	Health care	Malaria	treating malaria	63	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Lantana camara	Health care	Malaria	treating malaria	63	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Launaea taraxacifolia	Health care	Musculoskeletal & cardiology	used to control blood pressure	45	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Launaea taraxacifolia	Health care	Endocrinology	treating diabetes mellitus	45	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Launaea taraxacifolia	Health care	Malaria	treating malaria	45	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Lecaniodiscus cupanioides	Health care	Obstetrics & gynaecology	treating miscarriage	74	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Lecaniodiscus cupanioides	Health care	Dermatology	treating stomach ulcer	74	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Leucas martinicensis	Health care	Malaria	treating malaria	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Leucas martinicensis	Health care	Fever	treating fever	38	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Lippia multiflora	Agriculture	Post-harvest protectants	protecting stored products	79	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Ludwigia suffruticosa	Health care	Neurology	treating convulsion	6	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Lycopersicon esculentum	Health care	Oncology	treating throat and lung cancer	9	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Macaranga barteri	Health care	Immunology	treating foot rot	69	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Malacantha alnifolia	Health care	Obstetrics & gynaecology	treating miscarriage	45	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Mallotus oppositifolius	Health care	Oncology	treating genital skin, prostate, breast, throat cancer	140	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mallotus oppositifolius	Health care	Dermatology	treating wounds	140	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Mallotus oppositifolius	Health care	Dermatology	treating wounds	140	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Mammea africana	Health care	Oncology	treating cervical, breast, skin and throat cancer	29	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mangifera indica	Health care	Anaesthetics	treating stomach aches	8	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mangifera indica	Health care	Fever	treating fever	8	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mangifera indica	Health care	Malaria	treating malaria	8	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mangifera indica	Health care	Endocrinology	treating diarrhoea	8	Appiah et al., 2017. Sustainability 9(8) 14-68
Mangifera indica	Health care	Fever	treating fever	8	Appiah et al., 2017. Sustainability 9(8) 14-68
Mangifera indica	Health care	Neurology	treating coughs	8	Appiah et al., 2017. Sustainability 9(8) 14-68
Mangifera indica	Health care	Oncology	treating lungs, skin, prostate and throat cancer	8	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mangifera indica	Health care	Endocrinology	treating diabetes mellitus	8	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Mangifera indica	Health care	Malaria	treating malaria	8	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Mangifera indica	Health care	Malaria	treating malaria	8	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Manihot esculenta	Health care	Oncology	treating cervical, skin and genital cancer	853	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Manihot esculenta	Health care	Dermatology	arresting bleeding	853	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Manihot esculenta	Health care	Malaria	treating malaria	853	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Manihot utilissima	Health care	Dermatology	treating skin ulcer	0	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Manihot utilissima	Health care	Endocrinology	treating diarrhoea	0	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Mansonia altissima	Health care	Oncology	treating breast and skin cancer	53	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mansonia altissima	Health care	Orthopaedics	treating body pains	53	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Maranthes robusta	Health care	Orthopaedics	treating rheumatism	20	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017

Marantochloa leucantha	Health care	Immunology	treating boils	54	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Mareya micrantha	Health care	Malaria	treating malaria	106	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Mareya spicata	Health care	Malaria	treating malaria	4	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Maytenus senegalensis	Energy	Fuel	used as fuel wood for cooking	63	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Maytenus senegalensis	Social	Artefacts	used for carving stools	63	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Maytenus senegalensis	Health care	Oncology	treating prostate cancer	63	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Microdesmis puberula	Health care	Oncology	treating breast cancer	117	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Microdesmis puberula	Health care	Malaria	treating malaria	117	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Milicia excelsa	Health care	Anaesthetics	treating headaches	61	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Milicia excelsa	Health care	Dermatology	treating wounds	61	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Milicia excelsa	Health care	Oncology	treating skin and prostate cancer	61	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Milicia regia	Health care	Oncology	treating lung, skin, stomach, throat and heart cancer	56	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mimosa pudica	Health care	Oncology	treating breast cancer	20	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Mitracarpus villosus	Health care	Dermatology	treating dermatitis	1	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Mitracarpus villosus	Health care	Dermatology	treating wound leprosy	1	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Mitracarpus villosus	Health care	Dermatology	treating wounds and infections	1	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Mitragyna inermis	Health care	Malaria	treating malaria	84	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mitragyna inermis	Health care	Malaria	treating malaria	84	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mitragyna inermis	Energy	Fuel	used as fuel wood for cooking	84	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mitragyna inermis	Construction	Building materials	used for roofing buildings	84	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mitragyna inermis	Social	Artefacts	used for carving stools	84	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Mitragyna inermis	Health care	Endocrinology	treating diabetes mellitus	84	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209

Mitragyna inermis	Agriculture	Post-harvest protectant	used for preserving food	84	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Mitragyna inermis	Agriculture	Post-harvest protectants	protecting stored products	84	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Momordica angustisepala	Health care	Oncology	treating skin cancer	14	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Momordica charantia	Health care	Fever	treating typhoid	57	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Momordica charantia	Health care	Malaria	treating malaria	57	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Momordica charantia	Health care	Malaria	treating malaria	57	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Momordica charantia	Health care	Dermatology	treating measles	57	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Momordica charantia	Health care	Endocrinology	treating diabetes mellitus	57	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Momordica charantia	Health care	Endocrinology	treating diabetes	57	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Momordica charantia	Health care	Dermatology	treating snake bites	57	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Momordica charantia	Culture	Cultural purposes	used for rituals	57	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Momordica charantia	Health care	Fever	for treating fever	57	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Momordica charantia	Health care	Dermatology	for treating measles	57	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Momordica charantia	Health care	Obstetrics & gynaecology	used to induce abortion	57	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Momordica charantia	Health care	Oncology	treating stomach, skin, cervical and breast cancer	57	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Monodora myristica	Health care	Anaesthetics	treating stomach aches	100	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Monodora myristica	Health care	Immunology	treating candidiasis	100	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Monodora myristica	Food & nutrition	Food	used as as spices	100	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568

Monodora myristica	Health care	Excipients	used with other medicinal plants	100	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568
Monodora myristica	Food & nutrition	Food	used as spices	100	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Monodora myristica	Health care	Obstetrics & gynaecology	used to induce menstruation	100	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Morinda citrifolia	Health care	Endocrinology	treating diabetes mellitus	0	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Morinda lucida	Health care	Fever	treating fever	68	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Morinda lucida	Health care	Malaria	treating malaria	68	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Morinda lucida	Health care	Fever	treating typhoid fever	68	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Morinda lucida	Health care	Immunology	treating candidiasis	68	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Morinda lucida	Health care	Dermatology	treating boils	68	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Morinda lucida	Health care	Malaria	treating malaria	68	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Morinda lucida	Health care	Malaria	treating malaria	68	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Morinda lucida	Health care	Infertility	used as aphrodisiac	68	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Morinda lucida	Health care	Fever	for treating puerperal fever	68	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Morinda lucida	Health care	Malaria	for treating malaria	68	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Morinda lucida	Health care	Fever	for clearing phlegms	68	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Morinda lucida	Health care	Endocrinology	treating diarrhoea	68	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Moringa oleifera	Health care	Dermatology	treating pruritus	53	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Moringa oleifera	Health care	Fever	treating jaundice	53	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Moringa oleifera	Health care	Endocrinology	used for blood tonic	53	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Moringa oleifera	Food & nutrition	Food	leaves are taken as vegetables	53	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Moringa oleifera	Health care	Malaria	treating malaria	53	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Momordica charantia	Agriculture	Post-harvest protectant	used as protectants of stored grains	57	Cobbinah et al., 1999. NRI Bulletin 77
Mucuna sloanei	Health care	Dermatology	arresting bleeding	13	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Mucuna sloanei	Culture	Cultural purposes	used for rituals	13	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Musa paradisiaca	Health care	Dermatology	arresting bleeding	3	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Musa paradisiaca	Health care	Dermatology	treating wounds	3	Appiah et al., 2017. Sustainability 9(8) 14-68
Musa paradisiaca	Health care	Fever	treating fever	3	Appiah et al., 2017. Sustainability 9(8) 14-68

Musa paradisiaca	Health care	Anaesthetics	treating headaches	3	Appiah et al., 2017. Sustainability 9(8) 14-68
Musa paradisiaca	Health care	Malaria	treating malaria	3	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Musa paradisiaca	Health care	Malaria	treating malaria	3	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Musa paradisiaca	Health care	Fever	treating fevers	3	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Musa paradisiaca	Health care	Malaria	treating malaria	3	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Musa paradisiaca	Health care	Endocrinology	treating diarrhoea	3	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Musa paradisiaca	Health care	Fever	treating loss of appetite	3	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Musa paradisiaca	Health care	Immunology	treating candidiasis	3	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Musa sapientum	Health care	Malaria	treating malaria	0	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Nauclea diderrichii	Health care	Infertility	treating sexual weakness	49	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Nauclea diderrichii	Health care	Endocrinology	treating diarrhoea	49	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Nauclea latifolia	Health care	Malaria	treating malaria	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Nauclea latifolia	Food & nutrition	Food	fruits are taken raw	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Nauclea latifolia	Health care	Malaria	treating malaria	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Nauclea latifolia	Construction	Building materials	used for roofing buildings	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Nauclea latifolia	Social	Artefacts	used for carving artefacts	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Nauclea latifolia	Health care	Malaria	treating malaria	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Newbouldia laevis	Health care	Endocrinology	treating stomach upsets	38	Appiah et al., 2017. Sustainability 9(8) 14-68
Newbouldia laevis	Health care	Neurology	treating coughs	38	Appiah et al., 2017. Sustainability 9(8) 14-68
Newbouldia laevis	Health care	Malaria	treating malaria	38	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Newbouldia laevis	Health care	Orthopaedics	treating bone fractures	38	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Newbouldia laevis	Health care	Oncology	treating prostate, breast and ovarian cancer	38	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Nicotiana tabacum	Health care	Orthopaedics	treating rib pains	9	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Nicotiana tabacum	Agriculture	Post-harvest protectant	used as protectants of stored grains	9	Cobbinah et al., 1999. NRI Bulletin 77
Ochna rhizomatosa	Health care	Orthopaedics	treating rib pains	19	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Ocimum americanum	Agriculture	Post-harvest protectant	used for preserving food	56	Belmain *et al.*, 2001. Food and Chemical Toxicology 39(3) 287-293
Ocimum americanum	Culture	Cultural purposes	used for rituals	56	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378

Ocimum americanum	Agriculture	Post-harvest protectants	protecting stored products	56	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Ocimum basilicum	Health care	Malaria	treating malaria	42	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Ocimum canum	Health care	Malaria	treating malaria	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ocimum canum	Health care	Malaria	treating malaria	39	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Ocimum canum	Health care	Malaria	treating malaria	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ocimum gratissimum	Health care	Endocrinology	treating diarrhoea	30	Appiah et al., 2017. Sustainability 9(8) 14-68
Ocimum gratissimum	Health care	Malaria	treating malaria	30	Appiah et al., 2017. Sustainability 9(8) 14-68
Ocimum gratissimum	Health care	Neurology	treating convulsion	30	Appiah et al., 2017. Sustainability 9(8) 14-68
Ocimum gratissimum	Health care	Dermatology	treating wounds	30	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ocimum gratissimum	Health care	Oncology	treating skin, breast, prostate and stomach cancer	30	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ocimum gratissimum	Health care	Malaria	treating malaria	30	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Ocimum gratissimum	Health care	Dermatology	treating cuts	30	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Ocimum gratissimum	Health care	Fever	treating typhoid	30	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Ocimum gratissimum	Health care	Fever	treating loss of appetite	30	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Ocimum gratissimum	Health care	Endocrinology	treating bloating	30	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Ocimum gratissimum	Health care	Dermatology	arresting bleeding and treating wounds	30	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Ocimum gratissimum	Health care	Malaria	treating malaria	30	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Ocimum viride	Health care	Oncology	treating skin and genital cancer	0	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ocimum viride	Health care	Immunology	treating trichomoniasis	0	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Ocimum viride	Health care	Dermatology	treating wounds and infections	0	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111

Oncoba spinosa	Health care	Oncology	treating skin cancer	65	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ostryoderris stuhlmannii	Health care	Malaria	treating malaria	2	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ozoroa insignis	Health care	Malaria	treating malaria	11	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ozoroa insignis	Health care	Malaria	treating malaria	11	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Panicum maximum	Agriculture	Nutrient release and organic matter amendments	used to improve soil fertility	149	Quansah *et al*., 2001. Biological agriculture & horticulture 19(2) 101-113
Parinari excelsa	Health care	Malaria	treating malaria	43	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Parinari polyandra	Health care	Malaria	treating malaria	57	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parinari polyandra	Energy	Fuel	fuel wood	57	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia bicolor	Health care	Endocrinology	treating diarrhoea	36	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Parkia biglobosa	Health care	Anaesthetics	leaves, bark and roots are used to cure stomach aches	42	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1231-1240
Parkia biglobosa	Health care	Fever	treating fever	42	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1231-1240
Parkia biglobosa	Food & nutrition	Food	seeds are processed into protein rich condiment	42	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1231-1240
Parkia biglobosa	Energy	Fuel	used as fuel wood for cooking	42	Nyadanu *et al*., 2017. Genetic Resources and Crop Evolution 64(6) 1231-1240
Parkia biglobosa	Health care	Anaesthetics	treating rib pains	42	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Parkia biglobosa	Health care	Oncology	treating breast cancer	42	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Parkia biglobosa	Health care	Malaria	treating malaria	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Food & nutrition	Food	used as spices	42	Campbell-Platt, 1980. Ecology of food and nutrition 9(2)123-132
Parkia biglobosa	Health care	Fever	treating fever	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Health care	Anaesthetics	treating headaches	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Food & nutrition	Food	fruits are eaten, and seeds used as spices	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Energy	Fuel	used as fuel wood and charcoal for cooking	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Construction	Building materials	used for roofing buildings	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Parkia biglobosa	Social	Artefacts	used for carving artefacts	42	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Parkia clappertoniana	Agriculture	Labour inducing agent	seed extracts improve reproductive performance in rodents	27	Boye *et al*., 2016. Jrnal of ethnopharmacology (185) 155-161
Parquetina nigrescens	Health care	Immunology	treating candidiasis	53	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Parquetina nigrescens	Health care	Dermatology	treating boils	53	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Paullinia pinnata	Health care	Endocrinology	treating diabetes mellitus	100	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Paullinia pinnata	Health care	Malaria	treating malaria	100	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Paullinia pinnata	Health care	Malaria	treating malaria	100	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Paullinia pinnata	Health care	Neurology	treating stroke	100	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Paullinia pinnata	Health care	Immunology	treating HIV/AIDS	100	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Paullinia pinnata	Health care	Orthopaedics	treating bone fracture	100	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Paullinia pinnata	Health care	Malaria	treating malaria	100	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Paullinia pinnata	Health care	Infertility	treating sexual weakness	100	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Paullinia pinnata	Health care	Orthopaedics	treating rheumatism	100	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Paullinia pinnata	Health care	Oncology	treating stomach, skin, liver and breast cancer	100	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Pentaclethra macrophylla	Health care	Endocrinology	treating diarrhoea	46	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Pericopsis elata	Culture	Cultural purposes	used for rituals	14	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Pericopsis laxiflora	Health care	Malaria	treating malaria	77	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pericopsis laxiflora	Health care	Malaria	treating malaria	77	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Periploca nigrescens	Health care	Malaria	treating malaria	8	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Periploca nigrescens	Health care	Oncology	treating skin, throat, throat, prostate and breast cancer	8	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Persea americana	Health care	Malaria	treating malaria	18	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Persea americana	Health care	Malaria	treating malaria	18	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Persea americana	Health care	Dermatology	treating skin ulcers	18	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Persea americana	Health care	Dermatology	treating skin rashes	18	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Persea americana	Health care	Dermatology	treating wounds and infections	18	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111

Phragmanthera capitata	Health care	Malaria	treating malaria	38	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Phyllanthus amarus	Health care	Dermatology	treating measles	17	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Phyllanthus amarus	Health care	Malaria	treating appetite loss	17	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Phyllanthus amarus	Health care	Endocrinology	treating diarrhoea	17	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Phyllanthus amarus	Health care	Dermatology	treating boils	17	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Phyllanthus fraternus	Health care	Oncology	treating skin cancer	4	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Phyllanthus fraternus	Health care	Dermatology	healing wounds, boils and stomach pains	4	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Phyllanthus fraternus	Health care	Immunology	treating tuberculosis	4	Nguta et al., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Phyllanthus fraternus	Health care	Malaria	treating malaria	4	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Phyllanthus muellerianus	Health care	Dermatology	treating wounds	69	Appiah *et al*., 2017. Sustainability 9(8) 14-68
Phyllanthus muellerianus	Health care	Dermatology	treating wounds	69	Agyare *et al*., 2009. Jrnal of Ethnopharmacology (125) 393-403
Phyllanthus niruri	Health care	Malaria	treating malaria	1	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Phyllanthus amarus	Health care	Fever	treating typhoid fever	17	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Physalis angulata	Health care	Oncology	treating cancer	79	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Physalis angulata	Health care	Oncology	treating breast cancer	79	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Picralima nitida	Health care	Oncology	treating skin cancer	22	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Piliostigma thonningii	Health care	Dermatology	treating cuts	44	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Piliostigma thonningii	Energy	Fuel	used as fuel wood for cooking	44	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Piliostigma thonningii	Social	Artefacts	used for making ropes	44	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Piliostigma thonningii	Construction	Building materials	used for roofing buildings	44	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Piliostigma thonningii	Health care	Anaesthetics	treating abdominal pains	44	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Pimpinella anisum	Health care	Dermatology	treating boils	0	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Piper guineense	Food & nutrition	Food	used as as spices	182	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568

Piper guineense	Health care	Excipients	used as excipients	182	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568
Piper guineense	Food & nutrition	Food	used as spices	182	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Piper guineense	Health care	Neurology	treating asthma	182	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Piper guineense	Health care	Neurology	Convulsions	182	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Piper guineense	Health care	Malaria	treating malaria	182	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Piper umbellatum	Health care	Oncology	treating skin cancer	78	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Piper umbellatum	Agriculture	Post-harvest protectant	used as protectants of stored grains	78	Cobbinah et al., 1999. NRI Bulletin 77
Piptocarpha riedelii	Health care	Oncology	treating prostate, lung and liver cancer	0	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Pleiocarpa mutica	Agriculture	Post-harvest protectants	protecting stored products	58	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Pleiocarpa pycnantha	Health care	Oncology	treating breast cancer	54	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Plumbago zeylanica	Agriculture	Post-harvest protectant	used as protectants of stored grains	21	Cobbinah et al., 1999. NRI Bulletin 77
Polyalthia longifolia	Health care	Fever	treating fever	2	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Polyalthia longifolia	Health care	Malaria	treating malaria	2	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Portulaca oleracea	Health care	Oncology	treating prostate, skin, throat and breast cancer	23	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Prosopis africana	Health care	Dermatology	treating cuts	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Prosopis africana	Health care	Dentistry	used as chewing stick for cleaning the teeth	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Prosopis africana	Social	Artefacts	used as for carving artefacts	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pseudocedrela kotschyi	Health care	Malaria	treating malaria	33	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pseudocedrela kotschyi	Health care	Malaria	treating malaria	33	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pseudocedrela kotschyi	Health care	Dentistry	used as chewing stick for cleaning the teeth	33	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Psidium guajava	Health care	Endocrinology	treating diarrhoea	23	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Psidium guajava	Health care	Dermatology	treating measles, herpes zoster	23	Pesewu *et al.*, 2008. Jrnal of ethnopharmacology 116(1) 102-111

Psidium guajava	Health care	Malaria	treating malaria	23	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Psidium guajava	Health care	Dermatology	treating wounds and infections	23	Pesewu *et al*., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Psidium guajava	Health care	Endocrinology	treating diarrhoea	23	Henry *et al*., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Psidium guajava	Health care	Dermatology	treating chicken pox	23	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Psidium guajava	Health care	Oncology	treating stomach and skin cancer	23	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Psidium guajava	Health care	Anaesthetics	treating waist pains	23	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Pteleopsis suberosa	Health care	Immunology	treating STDs	10	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Pteleopsis suberosa	Health care	Immunology	treating STDs	10	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Pteleopsis suberosa	Health care	Obstetrics & gynaecology	used to clean the uterus	10	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Pteridium aquilinum	Health care	Fever	treating fever	22	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Pteridium esculentum	Health care	Obstetrics & gynaecology	treating menstrual disorders	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Pterocarpus santalinoides	Food & nutrition	Food	Fruits are eaten raw	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Health care	Malaria	treating malaria	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Health care	Ophthalmology	treating eye problems	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Agriculture	Fodder	feeding livestock	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Construction	Building materials	used for roofing buildings	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Social	Artefacts	used for carving artefacts	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Culture	Cultural purposes	used for enhancing spiritual beliefs	105	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Pterocarpus erinaceus	Agriculture	Post-harvest protectants	protecting stored products	105	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Pterocarpus santalinoides	Health care	Oncology	treating lungs cancer	105	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Pterygota macrocarpa	Health care	Malaria	treating malaria	24	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346

Pueraria phaseoloides	Agriculture	Nutrient release and organic matter amendments	used to improve soil fertility	9	Quansah *et al*., 2001. Biological agriculture & horticulture (2) 101-113
Pycnanthus angolensis	Health care	Malaria	treating malaria	53	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Pycnanthus angolensis	Health care	Oncology	treating skin cancer	53	Agyare *et al*., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Pycnanthus angolensis	Health care	Dermatology	treating wounds	53	Agyare *et al*., 2009. Jrnal of Ethnopharmacology (125) 393-404
Rauvolfia vomitoria	Health care	Orthopaedics	treating osteoarthritis	378	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Rauvolfia vomitoria	Health care	Fever	treating typhoid	378	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Rauvolfia vomitoria	Health care	Fever	treating appetite loss	378	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Rauvolfia vomitoria	Health care	Oncology	treating skin and genital cancer	378	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Rauvolfia vomitoria	Health care	Psychiatry	treating mental problems	378	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Rauvolfia vomitoria	Health care	Infertility	used as aphrodisiac	378	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Rauvolfia vomitoria	Health care	Malaria	treating malaria	378	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Rauvolfia vomitoria	Health care	Dermatology	treating parasitic skin diseases, yaws	378	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Ricinodendron heudelotii	Health care	Infertility	treating sexual weakness	42	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ricinodendron heudelotii	Health care	Endocrinology	treating anaemia	42	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Ricinus communis	Health care	Malaria	treating malaria	22	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Ricinus communis	Health care	Dermatology	treating dermatitis, keratoderma	22	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Ricinus communis	Health care	Malaria	treating malaria	22	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ricinus communis	Health care	Oncology	treating throat cancer	22	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ricinus communis	Health care	Malaria	treating malaria	22	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Rourea coccinea	Health care	Oncology	treating stomach cancer	50	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Ruellia brevifolia	Health care	Dentistry	treating halitosis	0	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Saba senegalensis	Food & nutrition	Food	Fruits are eaten raw	46	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Saba senegalensis	Social	Artefacts	used for making baskets	46	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Saba senegalensis	Health care	Oncology	treating stomach cancer	46	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152

Saccharum officinarum	Health care	Endocrinology	treating diabetes mellitus	3	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Saccharum officinarum	Health care	Malaria	treating malaria	3	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Sarcophrynium brachystachys	Health care	Fever	treating fevers	48	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Sarcophrynium brachystachys	Health care	Fever	treating loss of appetite	48	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Sarcophrynium brachystachys	Health care	Malaria	treating malaria	48	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Scoparia dulcis	Health care	Oncology	treating breast and skin cancer	79	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Secamone afzelii	Health care	Malaria	treating malaria	89	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Securidaca longepedunculata	Agriculture	Post-harvest protectant	used for preserving food	5	Belmain *et al*., 2001. Food and Chemical Toxicology 39(3) 287-294
Securidaca longepedunculata	Agriculture	Post-harvest protectants	protecting stored products	5	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Securidaca longepedunculata	Health care	Orthopaedics	treating fractures	5	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Securinega virosa	Health care	Orthopaedics	treating fractures	57	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Securinega virosa	Health care	Dermatology	treating wounds	57	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Senna alata	Health care	Dermatology	treating eczema	12	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna alata	Health care	Dermatology	treating rashes	12	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna alata	Health care	Anaesthetics	treating stomach aches	12	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna alata	Health care	Malaria	treating malaria	12	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Senna alata	Health care	Fever	treating typhoid	12	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Senna occidentalis	Health care	Endocrinology	treating diarrhoea	45	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna occidentalis	Health care	Neurology	treating coughs	45	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna occidentalis	Health care	Malaria	treating malaria	45	Appiah et al., 2017. Sustainability 9(8) 14-68
Senna occidentalis	Health care	Malaria	treating malaria	45	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Senna occidentalis	Health care	Malaria	treating malaria	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Senna occidentalis	Health care	Malaria	treating malaria	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Senna occidentalis	Health care	Malaria	treating malaria	45	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Senna siamea	Health care	Endocrinology	treating diabetes mellitus	52	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209

Senna siamea	Health care	Malaria	treating malaria	52	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Sesamum indicum	Health care	Endocrinology	treating diabetes mellitus	6	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Sida acuta	Health care	Oncology	treating skin, breast and colorectal cancer	43	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Sida acuta	Health care	Dermatology	arresting healing	43	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Sida cordata	Health care	Malaria	treating malaria	19	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Sida cordifolia	Health care	Malaria	treating malaria	86	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Sinapis alba	Health care	Oncology	treating lung cancer	0	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Smilax kraussiana	Health care	Infertility	treating impotence	47	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Smilax kraussiana	Health care	Endocrinology	treating piles	47	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Solanum erianthum	Health care	Dermatology	treating skin ulcer	37	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Solanum lycopersicum	Health care	Anaesthetics	treating severe stomach aches	29	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Solanum lycopersicum	Health care	Malaria	treating malaria	29	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Solanum lycopersicum	Health care	Dermatology	treating boils	29	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Solanum melongena	Health care	Endocrinology	treating anaemia	29	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Solanum torvum	Health care	Oncology	treating stomach and breast cancer	143	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Solanum torvum	Health care	Immunology	treating tuberculosis	143	Nguta et al., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Solanum torvum	Health care	Malaria	treating malaria	143	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Solanum tuberosum	Health care	Malaria	treating malaria	1	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Solanum verbascifolium	Health care	Dermatology	treating dermatitis	32	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Solanum verbascifolium	Health care	Oncology	treating skin, genital and breast cancer	32	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Solanum verbascifolium	Health care	Dermatology	treating wounds and infections	32	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Sorghum bicolor	Health care	Obstetrics & gynaecology	used to strengthen pregnant women	420	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Sorghum bicolor	Health care	Endocrinology	for treating anaemia	420	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Spathodea campanulata	Health care	Fever	treating typhoid fever	42	Appiah et al., 2017. Sustainability 9(8) 14-68

Spathodea campanulata	Health care	Malaria	treating malaria	42	Appiah et al., 2017. Sustainability 9(8) 14-68
Spathodea campanulata	Health care	Dermatology	treating wounds	42	Appiah et al., 2017. Sustainability 9(8) 14-68
Spathodea campanulata	Health care	Malaria	treating malaria	42	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Spathodea campanulata	Health care	Malaria	treating malaria	42	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Spathodea campanulata	Health care	Oncology	treating stomach, skin and throat cancer	42	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Spathodea campanulata	Health care	Dermatology	treating skin ulcer	42	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Spathodea campanulata	Health care	Neurology	treating stroke	42	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Sphenocentrum jollyanum	Health care	Endocrinology	treating diabetes	117	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Sphenocentrum jollyanum	Health care	Infertility	used as aphrodisiac	117	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Spondias mombin	Health care	Dermatology	treating wounds	30	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Stachytarpheta indica	Health care	Oncology	treating breast and skin cancer	61	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Sterculia setigera	Health care	Malaria	treating malaria	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Sterculia setigera	Health care	Malaria	treating malaria	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Sterculia setigera	Energy	Fuel	used as fuel wood for cooking	62	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Sterculia tragacantha	Health care	Oncology	treating breast cancer	56	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Strophanthus gratus	Health care	Oncology	treating skin cancer	60	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Strophanthus hispidus	Agriculture	Pest control	used as arrow poisoning of rodents	114	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Strophanthus hispidus	Health care	Immunology	treating STDs	114	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Strophanthus hispidus	Health care	Fever	fever during pregnancy	114	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Strophanthus hispidus	Health care	Orthopaedics	treating body pains	114	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Strychnos innocua	Health care	Malaria	treating malaria	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Strychnos innocua	Health care	Malaria	treating malaria	39	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Strychnos spinosa	Health care	Malaria	treating malaria	93	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Strychnos spinosa	Health care	Malaria	treating malaria	93	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Synedrella nodiflora	Agriculture	Post-harvest protectant	used for preserving food	59	Belmain *et al*., 2001. Food and Chemical Toxicology 39(3) 287-294
Synedrella nodiflora	Agriculture	Post-harvest protectants	protecting stored products	59	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Tabernaemontana crassa	Health care	Oncology	treating lung cancer	61	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Talbotiella gentii	Health care	Oncology	treating cancer	151	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Talinum triangulare	Health care	Endocrinology	treating diarrhoea	34	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285
Tamarindus indica	Food & nutrition	Food	fruits are eaten raw, leaves are used in preparing porridge	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tamarindus indica	Agriculture	Fodder	used for feeding livestock	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tamarindus indica	Energy	Fuel	used as fuel wood for cooking	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tamarindus indica	Construction	Building materials	used for roofing buildings	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tamarindus indica	Health care	Malaria	treating malaria	45	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tecoma stans	Health care	Oncology	treating skin and breast cancer	23	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Tectona grandis	Health care	Malaria	treating malaria	13	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Terminalia avicennioides	Health care	Dermatology	treating boils	71	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Terminalia catappa	Health care	Malaria	treating malaria	7	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Terminalia catappa	Health care	Malaria	treating malaria	7	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Terminalia catappa	Health care	Oncology	treating stomach, skin and breast cancer	7	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Terminalia ivorensis	Health care	Fever	treating fever	78	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Terminalia ivorensis	Health care	Endocrinology	treating stomach upset	78	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Terminalia ivorensis	Health care	Endocrinology	treating diarrhoea	78	Henry et al., 2013. Ghana Jrnal of Medicinal Plants Research 7(44) 3280-3285

Terminalia ivorensis	Health care	Malaria	treating malaria	78	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Terminalia ivorensis	Health care	Oncology	treating skin and lung cancer	78	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Terminalia macroptera	Health care	Endocrinology	treating piles	6	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Terminalia macroptera	Energy	Fuel	used as fuel wood for cooking	6	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia macroptera	Construction	Building materials	used for roofing buildings	6	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia superba	Health care	Neurology	treating convulsion	62	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Terminalia superba	Health care	Dermatology	treating stomach ulcer	62	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Terminalia superba	Health care	Oncology	treating stomach, lung, skin and prostate cancer	62	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Terminalia avicennioides	Health care	Neurology	treating coughs	71	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia avicennioides	Health care	Ophthalmology	treating eye problems	71	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia avicennioides	Energy	Fuel	used as fuel wood for cooking	71	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia avicennioides	Construction	Building materials	used for roofing buildings	71	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Terminalia avicennioides	Social	Artefacts	used for carving artefacts	71	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tetrapleura tetraptera	Health care	Malaria	treating malaria	35	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Tetrapleura tetraptera	Health care	Malaria	treating malaria	35	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Thalia geniculata	Health care	Oncology	treating skin cancer	20	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Thaumatococcus daniellii	Health care	Endocrinology	used to deworm	19	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Thaumatococcus daniellii	Health care	Malaria	treating malaria	19	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Theobroma cacao	Health care	Neurology	treating cough	25	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Theobroma cacao	Health care	Orthopaedics	treating inner pains	25	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Theobroma cacao	Health care	Malaria	treating malaria	25	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111

Theobroma cacao	Health care	Malaria	treating malaria	25	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Thevetia peruviana	Agriculture	Post-harvest protectant	used as protectants of stored grains	27	Cobbinah et al., 1999. NRI Bulletin 77
Thunbergia alata	Health care	Oncology	treating stomach cancer	21	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Tiliacora funifera	Health care	Oncology	treating breast and throat cancer	68	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Trema orientalis	Health care	Malaria	treating malaria	142	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Trichilia martineaui	Health care	Immunology	treating candidiasis	6	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Trichilia monadelpha	Health care	Anaesthetics	treating waist pains	77	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Trichilia monadelpha	Health care	Immunology	treating candidiasis	77	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Trichilia monadelpha	Health care	Fever	treating typhoid	77	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Tridax procumbens	Food & nutrition	Food	whole plant is used as food	40	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tridax procumbens	Agriculture	Fodder	used for feeding livestock	40	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Tridax procumbens	Health care	Oncology	treating skin and breast cancer	40	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Tridax procumbens	Health care	Malaria	treating malaria	40	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Trilepisium madagascariense	Health care	Immunology	treating candidiasis	34	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Triplochiton scleroxylon	Health care	Oncology	treating skin and breast cancer	57	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Triplochiton scleroxylon	Health care	Obstetrics & gynaecology	used for proper positioning of babies in the womb	57	Addo-Fordjour et al., 2013. Ghana Jrnal of medicinal plants research 2(9) 226-233
Triumfetta cordifolia	Health care	Oncology	treating skin and breast cancer	48	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Turraea heterophylla	Health care	Oncology	treating stomach, prostate, joint, breast, liver, throat	70	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Uapaca guineensis	Health care	Neurology	treating stroke	25	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Uapaca guineensis	Health care	Malaria	treating malaria	25	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Uvaria globosa	Health care	Fever	treating typhoid	1	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Uvaria globosa	Health care	Ophthalmology	treating day-blindness	1	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36

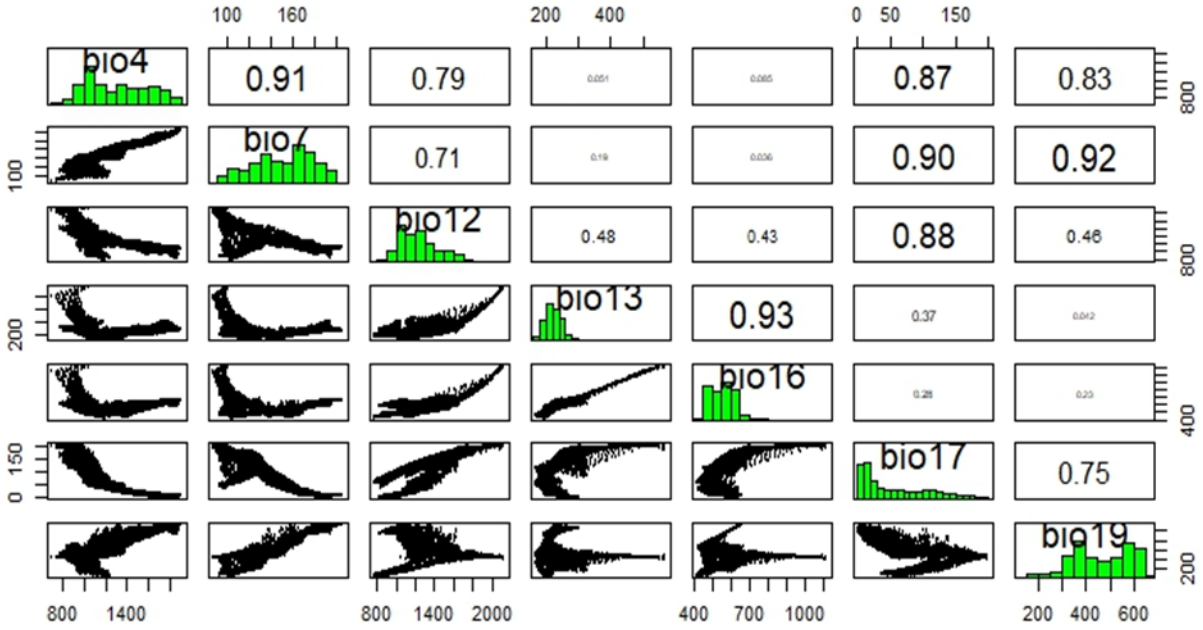
Vernonia amygdalina	Health care	Fever	treating fevers	17	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Asase & Asafo-Agyei, 2011. Jrnal of herbs, spices & medicinal plants 17(2) 85-111
Vernonia amygdalina	Health care	Dermatology	treating dermatitis	17	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Vernonia amygdalina	Health care	Endocrinology	treating diarrhoea	17	Appiah et al., 2017. Sustainability 9(8) 14-68
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Appiah et al., 2017. Sustainability 9(8) 14-68
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Vernonia amygdalina	Health care	Endocrinology	treating diabetes mellitus	17	Asase & Yohonu, 2016. Jrnal of Herbal Medicine 6(4) 204-209
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Vernonia amygdalina	Health care	Malaria	treating malaria	17	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vernonia amygdalina	Health care	Dermatology	treating wounds and infections	17	Pesewu et al., 2008. Jrnal of ethnopharmacology 116(1) 102-111
Vernonia colorata	Health care	Dermatology	treating wounds and arresting bleeding	42	Barku et al., 2015. Ghana Int. Jrnal of Phytomedicine 6(4) 564-572
Vernonia conferta	Health care	Endocrinology	treating diabetes	28	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Vitellaria paradoxa	Health care	Endocrinology	treating diarrhoea	34	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Vitellaria paradoxa	Health care	Immunology	treating candidiasis	34	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Vitellaria paradoxa	Health care	Anaesthetics	treating waist pains	34	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Vitellaria paradoxa	Health care	Dermatology	treating boils	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Food & nutrition	Food	Fruits are eaten, oil is extracted from seeds for cooking	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Agriculture	Fodder	use for feeding livestock	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Energy	Fuel	used as fuel wood for cooking	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Social	Artefacts	used for carving artefacts	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Vitellaria paradoxa	Construction	Building materials	used for roofing buildings	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Culture	Cultural purposes	used at funeral grounds	34	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Vitellaria paradoxa	Culture	Cultural purposes	used for rituals	34	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Vitellaria paradoxa	Health care	Dermatology	for treating skin boils	34	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Vitellaria paradoxa	Health care	Obstetrics & gynaecology	used as cosmetics and baby care	34	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Vitellaria paradoxa	Agriculture	Post-harvest protectants	protecting stored products	34	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Vitellaria paradoxa	Food & nutrition	Food	provides cooking oil	34	Belmain & Stevenson, 2001. Pesticide outlook 12(6) 233-238
Vitellaria paradoxa	Agriculture	Post-harvest protectant	used as protectants of stored grains	34	Cobbinah et al., 1999. NRI Bulletin 77
Vitex doniana	Health care	Endocrinology	treating anaemia	64	Kranjac-Berisavljevic *et al*., 2011. Crops for the Future-Beyond Food Security 979 669-673
Vitex doniana	Health care	Fever	treating jaundice	64	Kranjac-Berisavljevic *et al*., 2011. Crops for the Future-Beyond Food Security 979 669-673
Vitex doniana	Health care	Endocrinology	treating dysentery	64	Kranjac-Berisavljevic *et al*., 2011. Crops for the Future-Beyond Food Security 979 669-673
Vitex doniana	Food & nutrition	Food	fruits are taken as meals, leaves are used as vegetables	64	Kranjac-Berisavljevic *et al*., 2011. Crops for the Future-Beyond Food Security 979 669-673
Waltheria indica	Health care	Infertility	treating impotence	91	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Wissadula amplissima	Health care	Dermatology	treating stomach ulcer	38	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Withania somnifera	Health care	Oncology	treating genital cancer	0	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Xanthosoma sagittifolium	Health care	Oncology	treating skin cancer	77	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Xeroderris stuhlmannii	Health care	Malaria	treating malaria	25	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Health care	Dermatology	treating cuts and wounds	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Health care	Dermatology	treating body rashes	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Health care	Dentistry	treating toothaches	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Food & nutrition	Food	fruits are eaten raw	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Social	Artefacts	used for making pounding sticks	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Ximenia americana	Energy	Fuel	used as fuel wood for cooking	88	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618

Xylopia aethiopica	Health care	Oncology	treating stomach and breast cancer	23	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Xylopia aethiopica	Health care	Endocrinology	used as laxative	23	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Xylopia aethiopica	Culture	Cultural purposes	used for rituals	23	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Xylopia aethiopica	Food & nutrition	Food	used as spices	23	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Xylopia aethiopica	Health care	Malaria	treating malaria	23	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Xylopia aethiopica	Food & nutrition	Food	used as spices	23	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568
Xylopia aethiopica	Health care	Excipients	used with other medicinal plants	23	Freiesleben et al., 2015. Jrnal of ethnopharmacology (174) 561-568
Zanthoxylum gilletii	Health care	Oncology	treating liver cancer	5	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Zanthoxylum leprieurii	Health care	Infertility	treating sexual weakness	3	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Zanthoxylum leprieurii	Health care	Neurology	treating stroke	3	Boadu & Asase, 2017. Evidence-Based Complementary and Alternative Medicine 2017
Zanthoxylum leprieurii	Health care	Malaria	treating malaria	3	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346
Zanthoxylum zanthoxyloides	Health care	Dermatology	treating skin rashes	64	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zanthoxylum zanthoxyloides	Health care	Orthopaedics	treating fractures	64	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zanthoxylum zanthoxyloides	Health care	Oncology	treating stomach, skin, brain and breast cancer	64	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Zanthoxylum zanthoxyloides	Culture	Cultural purposes	twigs are used at the war front to tame enemies	64	Asase & Oteng-Yeboah, 2012. Ghana Ethnobotany Research and Applications (10) 605-618
Zanthoxylum zanthoxyloides	Health care	Obstetrics & gynaecology	used to strengthen pregnant women	64	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Zanthoxylum zanthoxyloides	Health care	Infertility	used as aphrodisiac	64	Van Andel et al., 2012. Jrnal of Ethnopharmacology 140(2) 368-378
Zea mays	Health care	Oncology	treating skin cancer	73	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Zingiber officinale	Health care	Anaesthetics	treating severe stomach aches	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zingiber officinale	Health care	Malaria	treating malaria	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zingiber officinale	Health care	Dermatology	treating boils	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36

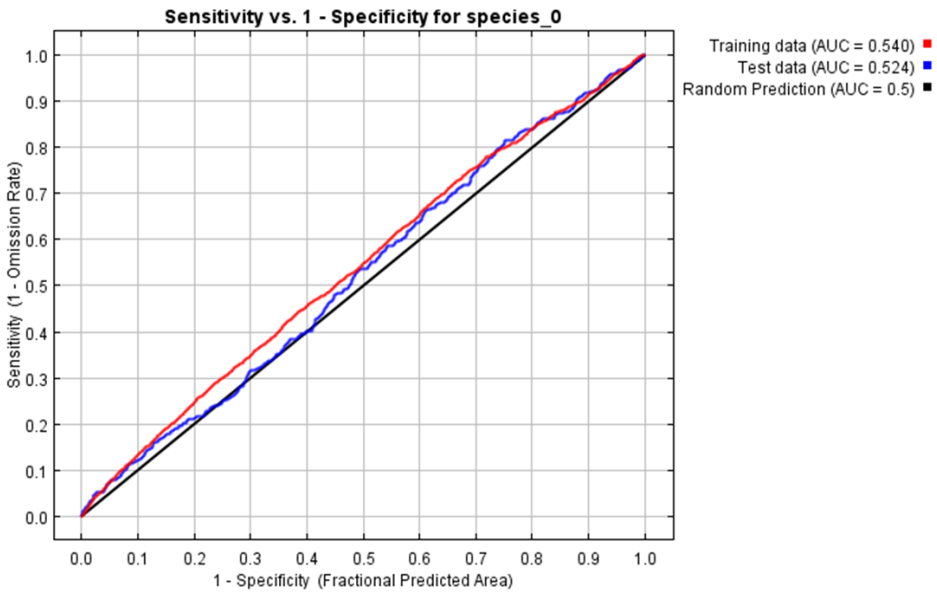
Zingiber officinale	Health care	Fever	treating typhoid	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zingiber officinale	Health care	Fever	treating loss of appetite	2	Asase & Kadera, 2014. Ghana Jrnal of Herbal Medicine 4(1) 24-36
Zingiber officinale	Health care	Dentistry	treating toothaches	2	Wodah & Asase, 2012. Ghana Pharmaceutical biology 50(7) 807-815
Zingiber officinale	Health care	Oncology	treating stomach and brain cancer	2	Agyare et al., 2018. Ghana Jrnal of ethnopharmacology (212) 137-152
Zingiber officinale	Health care	Immunology	treating tuberculosis	2	Nguta et al., 2015. Ghana Int. Jrnal of mycobacteriology 4(2) 116-123
Zingiber officinale	Health care	Malaria	treating malaria	2	Komlaga *et al*., 2015. Ghana Jrnal of ethnopharmacology (172) 333-346

*Appendix 2: Collinearity between temperature seasonality (standard deviation *100) (BIO4), temperature annual range (BIO7), annual precipitation (BIO12), precipitation of wettest month (BIO13,) precipitation of wettest quarter (BIO16), precipitation of driest quarter (BIO17) and precipitation of coldest quarter (BIO19). Lesser values represent less collinearity. Temperature seasonality (BIO4) and precipitation of wettest quarter (BIO16) show pearson's correlation value of 0.005.*

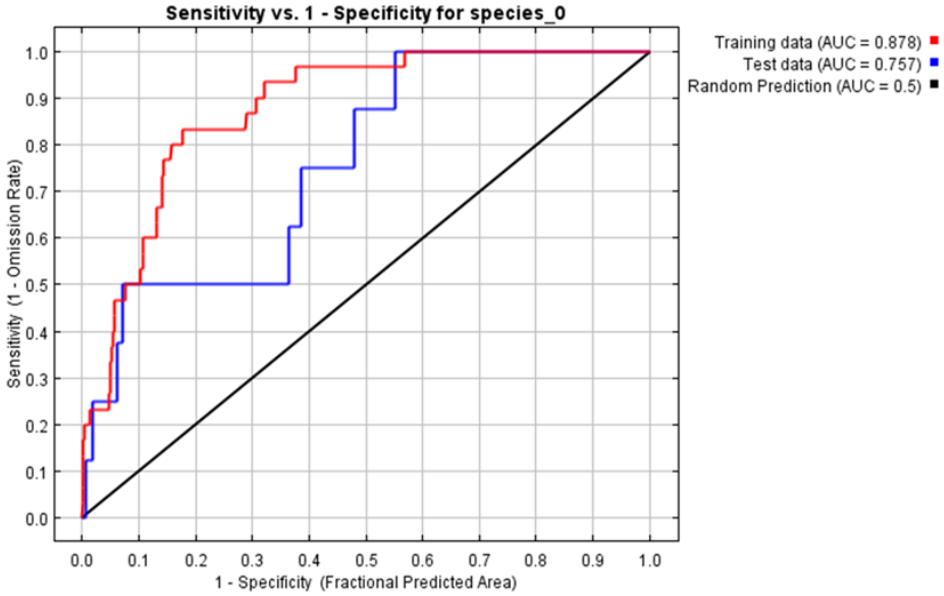


Appendix 3: IIlustration of AUC performance with sensitivity and specificity using healthcare and water purification models. The higher the AUC value, the lower the probability of randomness impacting the model. Water purification model is best as compared to healthcare model, comparing the AUC value.

Healthcare



Water purification



Appendix 4: Number of species and records in each ecosystem category and healthcare group with corresponding AUC values.

Categories	**No. of species**	**No. of records**	**AUC**
Agriculture	42	3378	0.571
Construction	18	1563	0.691
Culture	13	639	0.531
Energy	21	1183	0.656
Food and nutrition	26	2134	0.587
Healthcare	374	52744	0.554
Social	24	1559	0.68
Water purification	1	190	0.768
Healthcare groups			
Anaesthetics	23	1028	0.531
Dentistry	9	274	0.594
Dermatology	148	9778	0.557
Endocrinology	88	5110	0.537
Excipients	4	330	0.79
Fever	59	3032	0.605
Immunology	43	1932	0.642
Infertility	22	1707	0.685
Malaria	215	11018	0.578
Musculoskeletal and cardiology	2	88	0.681
Neurology	28	1596	0.613
Obstetrics and gynaecology	18	1169	0.517
Oncology	174	13393	0.544
Ophthalmology	5	345	0.745
Orthopaedics	22	1558	0.655
Psychiatry	1	386	0.785

Appendix 5: Summaries of the AUC values and variable contributions of species in ecosystem categories and groups.

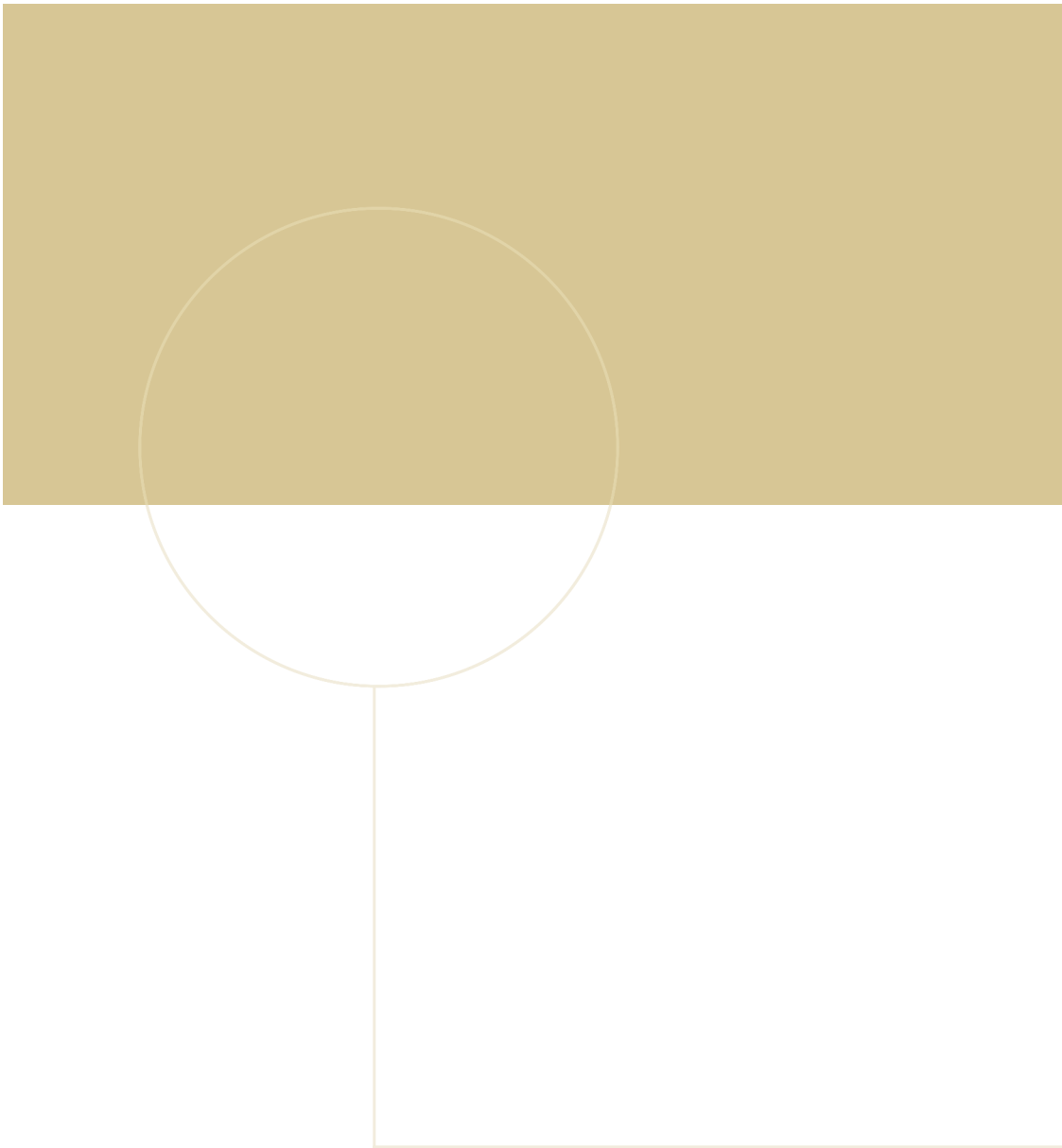
		Variable contributions			
Malaria species	**AUC**	**Annual precipitation**	**Temperature**	**Population**	**Landcover**
1st Quartile	0.71	0	2.5	0	19.3
Median	0.77	1.9	24.2	0.6	43.8
Mean	0.76	12.5	34.6	7	46
3rd Quartile	0.81	14.1	63.8	8	68.2
Agriculture species					
1st Quartile	0.71	0	1.7	0	14.9
Median	0.71	10.3	13.5	0.4	34.1
Mean	0.71	22.4	26.5	6	45.1
3rd Quartile	0.71	40.2	46.1	7.5	69.9
Anaesthetic species					
1st Quartile	0.73	1	10.7	0	10.5
Median	0.76	8.5	26.8	0.03	34
Mean	0.76	24.1	37.3	3.2	35.4
3rd Quartile	0.79	37.3	66.4	1.5	50
Dentistry species					
1st Quartile	0.76	0	23.1	4.8	1.8
Median	0.76	1.6	67.7	9.3	4.8
Mean	0.77	7.5	55	13.9	23.7
3rd Quartile	0.77	5	84	14.2	16.5
Dermatology species					
1st Quartile	0.71	0	3.2	0	11.6
Median	0.77	1.1	24.2	1.3	39.4
Mean	0.75	12.4	37.1	6.6	42.6
3rd Quartile	0.8	14.2	67.7	8.8	69.6
Endocrinology species					
1st Quartile	0.74	0	1	0	30.9
Median	0.79	1.4	13.7	0.3	57.8
Mean	0.77	13	27.5	5.5	54
3rd Quartile	0.81	16.6	47.2	5.5	82.3

Excipients species	AUC	Annual precipitation	Temperature	Population	Landcover
1st Quartile	0.8	0.32	74.6	0.02	20.8
Median	0.8	0.65	74.4	0.02	22.9
Mean	0.8	0.6	76.4	0.02	22.9
3rd Quartile	0.8	1	78.2	0.02	25.1
Orthopaedics species					
1st Quartile	0.7	0.02	2	0.1	20.3
Median	0.78	1.6	25.3	1.1	43.2
Mean	0.76	14.7	33.9	8.1	43.3
3rd Quartile	0.8	21.9	60.8	9.3	65.8
Psychiatry species					
1st Quartile	0.81	0.9	59.8	2.9	36.4
Median	0.81	0.9	59.8	2.9	36.4
Mean	0.81	0.9	59.8	2.9	36.4
3rd Quartile	0.81	0.9	59.8	2.9	36.4
Fever species					
1st Quartile	0.73	0	1.8	0	18.8
Median	0.78	1	22.4	0.5	38.3
Mean	0.76	17	32.3	7.9	42.8
3rd Quartile	0.81	28.1	54.5	11.7	59.4
Healthcare species					
1st Quartile	0.71	0	2.5	0	15.8
Median	0.78	1.9	29	0.3	38.5
Mean	0.76	13.5	38	6.2	41.9
3rd Quartile	0.81	16	69.3	5.8	65.7
Immunology species					
1st Quartile	0.73	0	4.4	0	18.2
Median	0.79	1.6	34.4	0.2	36
Mean	0.77	12.5	39.9	4.6	42.9
3rd Quartile	0.8	13.4	70.1	5.6	71.3
Infertility species					
1st Quartile	0.7	0.03	2.9	0.02	29.9
Median	0.77	1.1	31.8	1.2	42.4
Mean	0.76	8.9	33	7.7	50.4
3rd Quartile	0.81	4.2	59	6.3	68.9

Musculoskeletal and cardiology species	**AUC**	**Annual precipitation**	**Temperature**	**Population**	**Landcover**
1st Quartile	0.72	12.6	29.4	0.6	10.7
Median	0.77	25.3	52.2	1.1	21.4
Mean	0.77	25.3	52.2	1.1	21.4
3rd Quartile	0.82	37.9	75	1.7	32.1
Neurology species					
1st Quartile	0.76	0	5.7	0	18.7
Median	0.8	1.3	32.9	0.02	44.7
Mean	0.8	6.1	41.1	5.3	47.4
3rd Quartile	0.81	9.2	80.9	1.8	72.8
Obstetrics and gynaecology species					
1st Quartile	0.71	0	5.2	0	13
Median	0.79	1.3	22.3	0.03	25.1
Mean	0.76	22.3	38.3	0.6	38.8
3rd Quartile	0.81	22.9	69.9	0.3	72
Oncology species					
1st Quartile	0.71	0	1.7	0	16.2
Median	0.77	2	31.8	0.4	44.6
Mean	0.76	12.2	37.9	7.3	42.6
3rd Quartile	0.8	12.7	68.5	7.8	66.4
Ophthalmology species					
1st Quartile	0.76	1.3	0.3	0.3	34.3
Median	0.82	13.3	13.7	3.1	52.5
Mean	0.8	15.7	29	3.2	52.2
3rd Quartile	0.86	27.6	33.7	6	70.4

Appendix 6: Simplified land cover categories obtained for distribution maps

Landuse and land cover	Category
Forest	Forest
Savanna	Savanna
Wetland-flood plain	Wetlands
Steppe	Savanna
Plantation	Agriculture
Mangrove	Wetlands
Agriculture	Agriculture
Water bodies	Wetlands
Sandy area	Landscape area
Rocky land	Landscape area
Bare soil	Landscape area
Settlements	Landscape area
Irrigated agriculture	Agriculture
Gallery and riparian forest	Forest
Degraded forest	Forest
Thicket	Forest
Agriculture in shallows and recession woodland	Agriculture
Cropland and fallow with oil palms	Agriculture
Swamp forest	Forest
Sahelian short grass savanna	Savanna
Herbaceous savanna	Savanna
Open mine	Landscape area
Cloud	Cloud
Bowé	Savanna
Shrubland	Savanna



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