as health behaviour in general. Such a focus would help to enhance an appreciation of gender perspective in healthcare. These findings highlight the need for counselling to emphasize infertility as a couple's issue as this may help to reduce the self-blame identified in women. Also, despite a third of the cause of infertility being claimed by men, men are not willing or able to readily talk about their experience. Promoting active problem-solving techniques may be better received by them than the sharing of feelings in counselling. Counselling services can be used to educate clients about effective ways of coping with the stress of infertility as well as gender specific responses that may or may not be helpful.

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A Review of Medicinal Plant Research at the University of the West Indies, Jamaica, 1948–2001

SA Mitchell[1], MH Ahmad[1]

ABSTRACT

This review summarizes research carried out on Jamaican medicinal plants at the Faculty of Pure and Applied Science, The University of the West Indies (UWI), Mona, Jamaica, between 1948 and 2001. The plants identified as being medicinal are listed along with their folk use and a summary of the scientific research done at UWI leading to the identification of natural products (NPs) and determination of their bioactivity. Natural product research on Jamaican medicinal plants began with the inception of UWI in 1948, leading to many postgraduate degrees being awarded (22 MPhil and 31 PhD). At least 334 plant species growing in Jamaica have been identified as having medicinal qualities, 193 of these have been tested for their bioactivity. Crude extracts from 80 of these plants have reasonable bioactivity and natural products (NP) have been identified from 44 plants. At least 29 of these NPs were found to be bioactive. Only 31 of the plants tested at UWI are endemic to Jamaica. Of these 23% were bioactive, as compared to 11% of the non-endemics. Based on these results, patents have been obtained and drugs have been developed. This review represents the first attempt to gather this information together in one place.

Un resumen de la Investigación Sobre Plantas Medicinales en la Universidad de West Indies, Jamaica, 1948–2001

SA Mitchell[1], MH Ahmad[1]

RESUMEN

El presente trabajo resume la investigación sobre plantas medicinales jamaicanas, llevada a cabo en la Facultad de Ciencias Puras y Aplicadas de la Universidad de West Indies (UWI), Mona, Jamaica, entre 1948 y 2001. Las plantas identificadas como medicinales se enumeran junto con su uso popular y un resumen de la investigación científica realizada en UWI, la cual condujo a la identificación de los productos naturales y la determinación de su bioactividad. La investigación de productos naturales que tuvo por objeto las plantas medicinales jamaicanas, comenzó con la fundación de UWI en 1948, y en el transcurso de su desarrollo, condujo a la obtención de numerosos grados científicos. (Para el año 2001, en la Facultad de Ciencias Puras y Aplicadas se habían defendido 22 maestrías y 31 doctorados asociados con dicha investigación.) Por lo menos 334 especies de plantas que crecen en Jamaica han sido identificadas como poseedoras de propiedades medicinales, 193 de las cuales han sido sometidas a prueba para determinar su bioactividad. Los extractos crudos de 80 de estas plantas poseen una bioactividad razonable, y se han identificado productos naturales (PN) en 44 plantas. Se halló que por lo menos 29 de estos PN son bioactivos. Sólo 31 de las plantas sometidas a prueba en UWI eran endémicas de Jamaica. De éstas, el 23% resultó ser bioactivo, en comparación con el 11% en el caso de las plantas no endémicas. Sobre la base de estos resultados, se han obtenido patentes, y se han desarrollado medicamentos. Este resumen representa un primer intento por compilar esta información en un solo trabajo.

West Indian Med J 2006; 55 (4): 243

INTRODUCTION

Much of the wealth of a country resides in its plant inheritance, whether the plants are endemic, naturalized or recent introductions. Jamaica has 2888 known species of

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flowering plants that are native or fully naturalized, 784 species (27.2%) of these are endemic to the island (1). These plants find use as shade, ornament, food, spices and medicine. Copious research aimed at determining the nature and potential of natural products taken from Jamaican-grown plants has been carried out at the University of the West Indies (UWI), Mona Campus, since its inception in 1948, but no single source could be found listing all the medicinal plants of Jamaica, nor the research done on them. Since the research results were scattered widely in various thesis and papers, it has proven difficult to determine i) how many plants growing in Jamaica are known to be medicinal, ii) how many of these plants (and/or derived natural products) are bioactive and therefore have economic potential, iii) what intellectual property does UWI hold based on this research, iv) what benefit has been derived from this research, and v) what is the way forward? Answers to these questions can help to inform attempts to protect these plants (especially the endemics) whether *in situ*, or as *ex situ* or *in vitro* gene banks; to inform biotechnological research; further NPs research; or be used for economic gain.

Traditionally, there has been a strong dependency on medicinal plants to treat illness in Jamaica, as highlighted in a report from the Tropical Metabolism Research Unit (TMRU) of the UWI, in Jamaica. Seventy-one per cent of their patients from that report had been treated with herbal remedies before presentation to the medical service (2). Medical folk usage of plants has depended mainly on oral instructions therefore plants should be used with great care until investigated for possible toxic side effects (3). Most Jamaican folk-uses tend to be for medicinal purposes *eg* colds, fever, coughs, to build strength or as antiworm concoctions (2, 4–13). Less use is made of plants as natural pesticides (14–16). Since the 1960s, the trend has been towards gaining a better understanding of traditional medicine (2, 10, 11, 17, 18) and for the precise evaluation of how it can be incorporated into modern medical practice (4).

This review summarizes the natural product research conducted at the Faculty of Pure and Applied Science, The University of the West Indies (UWI), Mona, Jamaica, between 1948 and 2001. There have been some reviews on the ethnobotany, informal medication (including bush teas) and bioactivity of Jamaican plants (4–11, 19). However, no previous attempt to review the scientific research of medicinal plants at UWI, Mona, was found except for one bibliography (20). Some of the early literature has proven difficult to find but it is hoped that this summary is comprehensive enough to be useful. The main aim of this review was to assemble the most comprehensive and accurate list of Jamaican-grown plants identified by UWI scientists as having medicinal properties, and to summarize research done at UWI on these plants. This list, verified by taxonomists, can be used to inform further research and economic ventures.

METHOD

All the projects, papers, reviews and graduate theses (source material) published by scientists at the University of the West Indies, Faculty of Pure and Applied Science, Mona, Jamaica, between 1948 and 2001 that could be found were used to produce this review. Of the 53 graduate thesis identified in the bibliography (20), 30 of these were found (18 of these were PhD thesis) and are referred to at the relevant places in Table 6. The unavailable theses are listed here because, although the plants could not be identified, there are still a resource that needs to be studied further (21–36). Some literature also was not easily assigned to a particular plant species but is listed for completeness (37–43).

For this review, from each source material, the scientific and common name of the plant(s) tested, and their ethnomedical use(s), was extracted. Plants with medicinal (Table 2) and agricultural bioactivity (Table 3) and associated NPs (Table 4) are summarized in this review. Table 5 lists these plants (**1.** to **334.**), arranged alphabetically by family, followed by genus and species. Only the most accurate, up-to-date scientific name is listed. Table 5 was verified for accuracy by both the UWI and Institute of Jamaica herbariums; 94% of these plants had at least one entry in one or both herbariums. A summary of the research results for each plant studied or listed at UWI, Mona (**1.** to **226.**) was also extracted from each source material and is listed in Table 6. Plants **227.** to **334.** were identified by Asprey and Thornton in 1953–5 (5–9) as being used in folk medicine but they have not been studied any further at UWI, Mona.

In this review, 'Medicinal Plants' includes those plants with traditional medical (folk-medicine) or agricultural uses. 'Ethnomedicine' is the traditional uses made of these plants within Jamaica and abroad and is the use(s) stated in the papers reviewed. 'Endemic' plants are those plant species that are found only in Jamaica. 'Natural products' are secondary metabolites isolated directly from plants. 'Active ingredients' are those NPs that are bioactive and 'bioactivity' means that the plant (extract) caused death or demise of at least one test organism, or was found to have a pharmacological effect leading to alleviation of a disease such as diabetes or glaucoma. The test organisms used are given in Table 1.

RESULTS

The plants used in medicinal plant research at UWI, Mona, were primarily selected based on ethnobotany and previous research. Plants free of pest damage and lacking morphological adaptations such as a thick cuticle or spines and/or belonging to families known to contain compounds with pesticidal activities have also been tested (54) (Table 5). Table 6 lists all the plants tested and the results as given in the respective literature (for bioactivity against organisms as listed in Table 1 and for pharmacological activity).

Table 1: Organisms used for testing bioactivity of plant extracts and natural products

Bioactivity potential	Test organism	Reason for choice	Method used and literature source
Antihelminthic potential	*Strongyloides stercoralis*	Human intestinal nematode	Bioassay using infective larvae (44)
Anti-bacterial	*Streptococcus* group A *Staphylococcus aureus* *Proteus mirabilis* *Pseudomonas aeruginosa* *E. coli*	Pathogens of widespread occurrence in infections treated at UHWI, Jamaica	Disk diffusion method (45)
	E. coli *Streptococcus* group A *Streptococcus* group B *Streptococcus* group D *Staphylococcus epidermis* *Staphylococcus aureus* *Salmonella* spp 1,2	Human pathogens	Disk diffusion method (46)
	Mycobacterium tuberculosis	Tuberculosis pathogen	Tested by Tuberculosis Antimicrobial Acquisition and Coordinating Facility, Southern Research Institute, Alabama. (47)
Antifungal	*Candida albicans* *Candida krusei* *Microsporum gypeseum* *Trichophyton mentagraphytis*	Human pathogens	Disk diffusion method (48)
Insecticidal potential	*Trilobium confusum* Adults		Spray 10% concentrate under a Potter's tower (49)
	Cylas formicarius	Sweet potato weevil	(50, 51)
	Exophthalamus vittatus	Citrus root weevil	Lab conditions (16)
	Hypothenemus hampei	Coffee berry borer	Spray under Potter's Tower (16)
	Plutella xylostella	Diamondback moth of of cabbage	Applied topically to third instar larvae (16)
	Oomyzus sokolowakii	Adult parasite of cabbage moth	Exposed to film of extracts (16)
	Aedes aegyptii	Mosquito larvae	Test sample applied topically at 100 ppm conc (52)
Acaricidal potential	*Boophilis microplus* Engorged ticks	Ticks affecting cattle industry	Tested mortality, inhibition of oviposition, inhibition of embryogenesis, acaricidal index (AI) (14, 50)
Nematocidal activity	*Meloidogyne incognito* *Rotylenchulus reniformis*	Plant pathogenic nematodes	Organic admendments to soil – count eggmasses and galls on roots (53)

UHWI = University Hospital of the West Indies, Mona, Jamaica
Antihelminthic potential = potential to kill parasitic worms of humans including flukes, tapeworms and nematodes; Anti-bacterial = potential to kill bacteria; Insecticidal potential = potential to kill insects including mosquitoes; Acaricidal potential = potential to kill mites and ticks; Nematocidal activity = potential to kill nematodes; Antifungal = potential to kill fungi, numbers in parentheses are the reference numbers.

Natural product research began at the inception of UWI, Mona in 1948, in the Faculty of Pure and Applied Science (FPAS), Chemistry Department. Early results include the elucidation of the poison principle in ackees (55, 56) and NPs in periwinkle now used to treat leukaemia (57). Between 1953 and 1955, Asprey and Thornton reviewed the ethno-medical use of over 250 Jamaican plants (5–9). The pharmacological screening of Jamaican medicinal plants began in 1958 with the screening of over 116 plants (58–59). This present review lists 334 plants that were named as medicinal in the literature reviewed (at least 207 papers/ theses were produced during this period) (Table 5). Out of these, 193 plant species (55%) have been investigated for their bioactivity against human or plant pathogens, and/or for possible pharmacological or physiological actions: crude extracts from 80 of these plants had reasonable bioactivity (Table 6). Many departments in the FPAS are actively involved in this research, which has continued to the present, resulting, by 2001, in the award of 22 MPhils and 31 PhD degrees (listed in references).

Medicinal bioactivity

Crude extracts and purified natural products have been identified with the following medicinal value: for glaucoma (**46.**), as an ulcer dressing (**49.**), utero-active compound (**30.**), anti-tumor (**106.**), anti-cancer (**45.**, **161.**, **165.**), hypertension (**84.**, **135.**, **165.**), immunodilatory activity (**159.**), anti-growth properties (**83.**), short-term memory (**123.**), anti-convulsant, anti-inflammatory (**212.**), anti-leukaemic (**83.**, **226.**), for diabetes (many), to kill mosquitoes, intestinal nematodes and bacteria, and for tuberculosis (Table 2).

Table 2: Summary of plants that exhibited the most medicinal bioactivity

Bioactivity	Plant
Pharmacological	*Justicia pectoralis* (**2.**fresh cut), *Achyranthes indica* (**3.** devil's horse whip), *Bromelia pinguin* (**30.** ping wing), ***Cinnamodendron corticosum*** **(45. mountain cinnamon)**, *Cannibis sativa* (**46.** ganja), *Carica papaya* (**49.** papaya), *Momordica charantia* (**83.** cerassee), *Sechium edule* (**84.** cho-cho), *Euphorbia hirta* (**95.**), *Hyptis verticillata* (**106.** John Charles), *Abutilon trisulcatum* (**123.**), *Azadirachta indica* (**130.** neem), *Artocarpus altilis* (**135.** breadfruit), *Trophis racemosa* (**139.** ramoon), *Petiveria alliacea* (**159.** guinea hen weed), ***Peperomia clusifolia*** **(161.)**, ***Piper amalgo var nigrinodum*** **(165. pepper elder)**, *Eryngium foetidum* (**212.** spirit weed), *Jatropha gossypiifolia* (**226.** belly-ache bush)
Antihelminthic	(**76.**), (**112.**), *Mimosa pudica* (**134.** shame-mi-lady), (**135.**), (**212.**)
Diabetes	*Anacardium occidentalis* (**5**.cashew), *Spondias dulcis* (**7.** June plum), *Catharanthus roseus* (**12.** periwinkle), *Bixa orellana* (**21.** annatto), *Symphytum officinale* (**26.** Comfrey), *Cassia alata* (**35.** king of the forest), (**46.**), *Mikania micrantha* (**64.** guaco), (**83.**), *Cocus nucifera* (**146** coconut), *Capsicum baccatum* (**204.** bird pepper), *Capsicum frutescens* (**205.** pepper)
Fungicidal	(**45.**), (**130.**), **(161.), (165.),** *Piper betle* (**167.**), ***Piper murrayanum*** **(170.)**
Mosquitocidal	(**45.**), ***Peperomia proctorii*** **(163.),** (**165.**)
Antibacterial	*Cordia brownei* (**22.** black sage), ***Cassia jamaicensis*** **(36. Jamaican broom),** *Haematoxylum campechianum* (**39.**logwood), (**64.**), ***Veronia pluvalis*** **(72.)**, (**83.**), ***Rytidophyllum tomentosum*** **(99. search me heart)**, *Ocimum basilicum* (**109.** sweet parsley), (**110.**), (**130.**), *Coccoloba krugii* (**174.**), *Lantana camara* (**217.** white sage), *Lippia alba* (**221.** colic mint)

Numbers in bold are plant reference numbers (PRN) as listed in Tables 5 and 6; Plant names in bold are endemic plants

Agricultural bioactivity

Natural products can be used in agriculture. Synthetic organic pesticide usage has led to resistance in insects, resurgence of secondary pests and contamination of water resources (60). This has led to research on NPs – to extract, identify and elucidate the precise action of these products – as biological control agents. Many plants have been found whose extracts have insecticidal, fungicidal, nematocidal and acaricidal activity (Table 3). The plants listed as antibacterial in Table 2 against human pathogenic bacteria can be used in agriculture as bio-disinfectants.

Table 3: Summary of plants that exhibited the most agricultural bioactivity

Bioactivity	Plant
Insecticidal	*Ervatamia divaricata* (**13.** coffee rose), *Cleome viscosa* (**48.** wild caia), *Eupatorium odoratum* (**62.** Jack-in-the-bush), *Cuscuta americana* (**76.** dodder), *Dioscorea polygonoides* (**85.** wild yam), *Croton linearis* (**91.** rosemary), (**106.**), (**130.**), (**135.**), *Bontia daphnoides* (**140.** kidney bush), *Piper aduncum* (**164.**), ***Piper fadyenii*** **(168.),** *Piper hispidum* (**169.**), ***Piper verrucosum*** **(171.**), *Cycloptis semicordata* (**175.** fern), *Capraria biflora* (**196.** goat weed), *Capsicum annum* (**203.** pepper), *Nicotiana tabacum* (**207.** tobacco) *Eucalyptus* spp. (**227.**)
Acaricidal	(**13.**), (**26.**), *Ricinus communis* (**98.** castor oil), *Ocimum micranthum* (**110.** wild parsley), *Salvia serotina* (**112.** chicken weed), *Spigelia anthelmia* (**118.** worm grass), *Hibiscus rosa-sinensis* (**125.**), (**130.**), (**175.**), *Blighia sapida* (**192.** ackee), *Simarouba glauca* (**200.** bitter damson), *Stachytarpheta jamaicensis* (**224.** vervine)
Nematocidal	***Hibiscus sabdariffa*** **(124.** sorrel), *Pimento dioica* (**142.** pimento)

Numbers in bold are plant reference numbers as listed in Tables 5 and 6; plant names in bold are endemic plants

Identification of natural products

Natural products were identified in 44 of these plants; 29 were bioactive (Table 4). Some algae, fungi, and a millipede have also been tested for bioactive NPs (61–63). Natural products have also been used as lead compounds in the development of more potent bio-active agents (64–68).

Identification of most bio-active plants

Between 1948 and 2001, crude extracts and isolated NPs have been tested from over 50 *Croton* species, many endemic Piperaceae species and over 111 other plants (Tables 5, 6). The most potent plants – John Charles (**106.**), neem (**130.**), shame-mi-lady (**134.**), breadfruit (**135.**), kidney bush (**140.**), ackee (**192.**) and spirit weed (**212.**) – tended to exhibit multiple bioactivities (Tables 2-4). Of special interest are the Piperaceae. It is only in the last two decades that reports were found on New World *Piper* species (15). In Jamaica, the Piperaceae family is represented by *Piper* (11 spp, 6 are endemic), *Peperomia* (40 spp) and *Pothomorphe* (2 spp). This family is used in cold and stomach-ache remedies and as an insect repellant; it contains phenylpropanoids, butanolides, benzoic acid and flavonoid derivatives (69). Many endemics and non-endemics, from this family have been found to have bioactivity (14, 15, 49, 52, 69 – 78). The plants listed but not tested in Table 5 (PRN **227.–334.**) and Table 6 represents a reservoir of potential still not tapped. Also, there were five plants **(79–83)** that were not in Adams (1) and could be useful if found locally.

Table 4: Natural products isolated from plants tested at UWI between 1948 and 2001

PRN	Isolated Natural Product	Bioactivity
2.	Coumarine	Increased wound healing but not coagulation
21.	Trans-bixin	Hyperglycaemic, activity at receptor sites
34.	Caesalpine F	Bioactivity not determined
45.	Sesquiterpenoids and sesquiterpene	Anti-microbial, anticancer and mosquitocidal activity
46.	Cannabtriol	Canosol effects eye (glaucoma)
48.	Diterpene cleomolide	Insecticidal activity
54.	Flavanoids, heliangolide	Bioactivity not determined
73.	Tricin	Bioactivity not determined
82.	6 novel cucurbitacin	Bioactivity not determined
86.	Steroidal sapogenin	Bioactivity not determined
90.	Peptides	Bioactivity not determined
91.	Terpene	Lethal to *Cylas formicus*
93.	Morphinandienones and proporphines	Bioactivity not determined
103.	Plukentione A, B-G and xerophenone A	Bioactivity not determined
106.	Cadina-4,10(15)-dien-3-one	Lethal to *Cylas formicus*
	Flavonol	Antitumour and antimicrobial activity
119.	Triterpene	Bioactivity not determined
123.	Choline	Improved short-term memory in rats
131.	Photogedunin	Bioactivity not determined
132.	Triterpenoids	Bioactivity not determined
135.	Pentacyclic triterpene	Lethal to *Cylas formicus*
	Gamma-aminobutyric acid	Hypertensive agent
140.	Epingaione	Active against *C. formicus, B. microplus, Candida albicans* and inhibited elongation of radish roots
142.	Essential oils, oleoresins	Bioactivity not determined
159.	Polysulphide	Had insecticidal and acaricidal activity
161.	Clusifoliol, 3 NP	Bioactivity not determined, Anticancer properties
	Nigrinodine	Antifungal activity
163.	5 NP	2 NP had mosquitocidal activity
164.	6 amides, 3 amides synthesised from NP	No bioactivity, insecticidal activity
165.	Nigrodine, pipercide, guineesine	Antifeedant, anticancer, antifungal
	6 amides	3 amides lethal to *Aedes aegyptii*
	Gamma-butyric acid	Hypertensive agent
168.	6 amides, 3 amides synthesised from NP	No bioactivity, insecticidal activity
169.	6 amides, 3 amides synthesised from NP	No bioactivity, insecticidal activity
170.	Prenylated hydroxybenzoic derivates, 6 NP	Antimicrobial activity
171.	2 NP	One had contact insecticidal activity
178.	Triterpenoid saponins	Bioactivity not determined
179.	Tripterpenoids	Insecticidal activity
183.	2,5-diaryl oxazole, chromene	Bioactivity not determined
190.	Glabresol	Bioactivity not determined
191.	Chromenes, 2-quinolone	Bioactivity not determined
192.	Oil – 3 fatty acids	Potent insecticide – *C. formicus*, *B. microplus, Leucoptera, Hypothenemus hampei, Plutella xylostella*
196.	Sesquiterpenoids and 4 caprariolides	2 NP combined had insecticidal activity against *C. formicarius* equitoxic to eugenol
197.	4 alvaradoins	Bioactivity not determined
	Chrysophanol, physcion	No activity against *M. tuberculosis*
209.	Freidelane terpenes	Bioactivity not determined
212.	Unsaturated fatty aldehyde	Antihelminthic activity – *S. stercoralis*
220.	Terpenes	Bioactivity not determined
224.	Phytosterol, spinasterol	Bioactivity not determined
	Dopamine	Pressor activity
226.	Jatrophone	Anti-leukaemic agent

PRN = Plant Reference Number as given in Tables 5 and 6

Endemics

Many of the plants used in the Jamaican folk medicine, and found to have medicinal and agricultural potential at UWI, are not endemic to Jamaica. Of the 334 identified medicinal plants growing in Jamaica, 31 were endemic (9.3%); another 12 have a restricted distribution range to the Caribbean, 50% were restricted to the Americas while 37% are found throughout the tropics (Table 5). Bioactivity was found in 23% of the endemics and 11% of the non-endemics. The endemic medicinal plants are printed in bold in Tables 2–6. There are about 784 endemic plant species in Jamaica (27% of the 2 888 known plant species), many of which are rare

according to Adams (1); but their medicinal value is unknown at present.

Other research

Along with testing crude plant extracts, identification of natural products and active ingredients, pharmacological and toxicity testing, and formulation development, there has also been some research on the development of micropropagation and other tissue culture protocols (84 – 86).

Intellectual property and derived benefits

One of the first patents awarded for NPs research was in 1959 for an antibiotic named Monamycin active against the Panama disease pathogen (isolated by Ken Magnus and Cedric Hassall with IP assigned to the British NRDC). One of the most recent patent was awarded in 2002 for a potent antihelminthic called Eryngial (isolated by Wayne Forbes, Ralph Robinson and Paul Reese) – this IP is shared between the UWI and the Scientific Research Council. Several other natural products in commercial production include hypoglycin, canasol and asmasol (the latter two are registered products in Jamaica derived from *Cannabis sativa* [**46.**]).

DISCUSSION

The main aim of the present review was to develop a comprehensive and accurate list of plants growing in Jamaica that have identified folk medical uses, and to determine their potential based on research results of Jamaican scientists up to 2001. The input of UWI botanists and biotechnologists has so far been much less than the chemists and pharmacologists, but for safety and for further research and development, it is very important that the plants are accurately identified. The resulting listing of 334 medicinal plants of Jamaica, though undoubtedly leaving out some unavailable research results, should be enough to answer the questions outlined earlier and serve as a base for further research and development.

It is hoped that this review will serve as an encouragement to all those involved in this field. The importance of this industry to Jamaica is well-recognized (19, 87–90). There is certainly a lot of potential, both identified (Tables 2–4) and still to be tapped (Table 5, plants **227.-334.**; Table 6, all those listed but not tested). The challenge is to supplement this list by more ethnomedical surveys, continue testing these plants for bioactivity and toxicity; develop commercial formulations and standardize such extracts; develop *ex vitro* and *in vitro* germplasm collections, and develop tissue culture protocols for *in vitro* secondary metabolite production and for rapid multiplication of selected plants to produce elite planting material for commercial medicinal plant ventures. Protection of this knowledge, and fair share of the benefits, remain important. All these are areas of active research and will no doubt bring medicinal plant research at UWI to maturity.

Table 5: 'Medicinal' plants of Jamaica studied at the University of the West Indies, Mona – family, botanical name, common name, growth range, growth habit, and ethnomedicine

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
1. Acanthaceae	*Asystasia gangetica*	No name given	Old World tropics, cultivated	Herb	Not mentioned
2. Acanthaceae	+*Justicia pectoralis*	Fresh cut, garden balsam	Mexico to Northern S. America, WI	Herb	Wounds, colds, constipation, colic
3. Amaranthaceae	+*Achyranthes indica*	Devil's horse whip	Subtropics and tropics	Herb	Colds, colic, flu, malaria, veneral diseases
4. Amaryllidaceae	*Allium cepa*	Onion	Widely cultivated	Herb	Seasoning
5. Anacardiaceae	+*Anacardium occidentale*	Cashew	Widely distributed in tropics	Tree	Colds, fever, ulcers, belly ache
6. Anacardiaceae	+*Mangifera indica* L.	Mango	Widely distributed	Tree	Fever, diarrhoea, laxative (esp black mango)
7. Anacardiaceae	*Spondias dulcis*	June plum	Tropics	Tree	Controls sugar
8. Anacardiaceae	+*Spondias mombin*	Hog plum	Widely distributed	Tree	Colds, oedema, coughs, constipation, tapeworm
9. Annonaceae	+*Annona muricata*	Soursop	Tropics	Tree	Tranquiliser, dewormer, fever, dysentery, antispasmodic, colds, pains, diuretic
10. Annonaceae	+*Annona reticulata* L.	Custard apple	Tropics	Tree	Antihelminthic, dysentery, diarrhoea
11. Annonaceae	+*Annona squamosa*	Sweetsop	Tropics	Tree	Fever, painful spleen, labour pains, fainting, laxative, antihelminthic, diarrhoea, indigestion

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
12. Apocynaceae	*+Catharanthus roseus*	Periwinkle	Subtropics and tropics	Herb	Leukaemia, astringent, diabetes
13. Apocynaceae	*Ervatamia divaricata*	Coffee rose	Not given	Shrub	Insecticidal, acaricidal
14. Apocynaceae	*Nerium oleander* L.	Oleander	Native of Eurasia	Shrub	Not mentioned
15. Araliaceae	*Oreopanax capitatus*	Woman wood	C. America, WI	Shrub	Not mentioned
16. Araliaceae	*+Polyscias guilfoylei*	Aralia	Trop America, WI	Shrub	Colds
17. Asclepiadaceae	*+Asclepias curassavica*	Red top, red head	American sub-tropics and tropics	Herb	Vermifuge, sores, stops bleeding, coughs, boils, warts
18. Bignoniaceae	*Catalpa longissima*	French oak	Pacific and WI	Tree	Haemorrhoids, astringent
19. Bignoniaceae	*+Crescentia cujete*	Calabash	Tropics	Tree	Coughs, colds, purgative, poultice
20. Bignoniaceae	*Tecoma stans*	Yellow cedar, Jamaican lilac	Tropics	Shrub	Fever
21. Bixaceae	*Bixa orellana*	Annatto	Tropics	Tree	Orange dye, oral hyperglycaemic
22. Boraginaceae	*Cordia brownei*	Black sage	Gr. Cayman, Jamaica*	Shrub	Colds, fever, insomia
23. Boraginaceae	*+Cordia globosa*	Sage	Not given	Shrub	Colds, high blood pressure, fever, asthma
24. Boraginaceae	*Cordia sebestena*	Geiger tree	Tropics	Tree	Sharpening appetite
25. Boraginaceae	*+Heliotropium angiospermum*	Pink sage	Trop. America to Guyana	Herb	Colds, colic, billiousness, sore eyes
26. Boraginaceae	*Symphytum officinale*	Comfrey	Widely distributed	Herb	Anaemia, fatigue, pains, colds
27. Boraginaceae	*+Tournefortia hirsutissuma*	Cold with	Florida, trop. America, WI	Shrub	Colds, cough, fever, nervous trouble, chest pains, stomach-ache
28. Boraginaceae	*Tournefortia volubilis*	Chigger nut	Florida, Bahamas, C. & S. Amer., WI	Vine	Sores, baths, “restore manhood”
29. Brassicaceae	*Lepidium virginicum*	Wild pepper grass	Widely distributed	Herb	Relieve gas
30. Bromeliaceae	*+Bromelia pinguin*	Ping wing	C. & S. America, WI	Herb	Abortifacient, dewormer, diuretic, thrush
31. Burseraceae	*+Bursera simaruba*	Red birch	Florida, Mexico to Venezuela, WI	Tree	Colds, diarrhoea, wounds, diuretic, high blood pressure
32. Cactaceae	*+Opuntia cochenillifera*	Tuna	Widely cultivated	Shrub	Inflammation, vomiting, fever, headache
33. Caesalpiniaceae	*Bauhinia divaricata*	Bull hoof	Honduras, WI, Grand Cayman	Shrub	Bronchitis, sores, liver and kidney ailments
34. Caesalpiniaceae	*+ Caesalpinia bonducella*	Gray nicker	Subtropics to tropics	Shrub	Kidney trouble, diabetes, fever, high blood pressure, venereal diseases, convulsions
35. Caesalpiniaceae	*Cassia alata*	King of the forest	Tropics	Shrub	Eczema, purgative, hypertension, vermifuge
36. Caesalpiniaceae	***Cassia jamaicensis***	**Jamaican broom**	**Endemic**	**Shrub**	**Good for bladder, back pain, stomach and shortness of breath**
37. Caesalpiniaceae	*+Cassia ligustrinia*	Piss a bed	Florida, Bermuda, WI, W. Africa	Herb	Good for weak bladder
38. Caesalpiniaceae	*+Cassia occidentalis*	Dandelion, Stinking weed/ Wild coffee	Subtropics and tropics	Herb	Colds, kidney and bladder dysfunction, back pain, shortness of breath, dysentery, dropsy
39. Caesalpiniaceae	*+Haematoxylum campechianum*	Logwood	Tropics	Tree	Wound dressing, diarrhoea, dysentery
40. Caesalpiniaceae	*Peltophorum linnaei*	Brazilletto	Yucatan, WI	Tree	Not mentioned
41. Caesalpiniaceae	*+Tamarindus indica*	Tamarind	Subtropics and tropics	Tree	Colds, measles, chicken pox, laxative, fever
42. Campanthaceae	*Hippobroma longiflora*	Madam fate	Caribbean*	Herb	Poultice used for injury, pain
43. Campanulaceae	***Lobelia accuminata***	**No name given**	**Endemic**	**Herb**	**Not mentioned**
44. Campanulaceae	***Lobelia viridiflora***	**No name given**	**Endemic**	**Herb**	**Not mentioned**
45. Canellaceae	***Cinnamodendron corticosum***	**Mountain cinnamon**	**Endemic**	**Tree**	**Insecticidal, antimicrobial, anticomplemental cytotoxicity**
46. Cannabaceae	*+Cannibis sativa*	Ganja	Widely distributed	Herb	Asthma, vision improvement, fever, colds
47. Capparaceae	*Cleome rutidosperma*	No name given	Tropics	Herb	Not mentioned
48. Capparaceae	*Cleome viscosa*	Wild caia	Tropics	Herb	Insecticidal

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
49. Caricaceae	*+Carica papaya*	Papaya	Widely cultivated	Tree	Sores, boils, worms, warts, ringworm
50. Chenopodiaceae	*+Chenopodium ambrosioides*	Semicontract	Subtropics and tropics	Herb	Antifungal, antihelminthic, vermifuge
51. Combretaceae	*Terminalia catappa*	Almond	Widespread	Tree	Not mentioned
52. Commelinaceae	*Commelina benghalensis*	Water grass	Tropics	Herb	Thrush, burns, sore throats, strangury
53. Commelinaceae	*Commelina diffusa*	Water grass	Subtropics and tropics	Herb	Cold, malaria, eye lotion, gonorrhoea
54. Compositae	*Acanthospermum camphoratum*	No name given	Not given	Herb	Not mentioned
55. Compositae	*Ambrosia hispida*	Bay tansy, Worm wood	Florida, C. America, WI	Herb	Dewormer
56. Compositae	*Bidens cyanpiifolia*	Spanish needle	Tr. America, Bahamas, WI	Herb	Fever, stomach problems
57. Compositae	*+Bidens pilosa*	Spanish needle	Tropics	Shrub	Good for bowels, dewormer, cuts, colic, enema, ear ache
58. Compositae	***+Bidens reptans* var *tomentosa***	**Marigold**	**Endemic**	**Vine**	**Cold, menstrual problems**
59. Compositae	***+Calea jamaicensis***	**Camphor bush**	**Endemic**	**Shrub**	**Colds, bellyache**
60. Compositae	*+Chrysanthellum americanum*	No name given	Tropics	Herb	Used with strong back, for pain
61. Compositae	*+Elephantopus mollis*	Iron weed	Subtropics and tropics	Herb	Colds, back pain
62. Compositae	*+Eupatorium odoratum*	Jack in the bush	Tr. America, W. Africa, Malaya	Shrub	Wound dressing, colds, cough, bronchitis
63. Compositae	*+Eupatorium villosum*	Bitter bush	Florida, Bahamas, WI	Shrub	Colds, skin rash, constipation, fever, pain
64. Compositae	*+Mikania micrantha*	Guaco	Tr. America, (other species are endemic)	Vine	Skin itch, athlete's foot, anti-venom, stomach pain, cold, diarrhoea, dress wounds
65. Compositae	*+Parthenium hysterophorus*	Dog flea weed	Subtropics and tropics	Herb	Colds, sores, wound dressing, for dog fleas
66. Compositae	*+Pseudelephantopus spicatus*	Dog tongue	Tropics	Herb	Fever, ophthalmic, sprains
67. Compositae	*Syndrella nodiflora*	Fatten barrow	Tropics	Herb	Cold
68. Compositae	*Tagetes erecta* L.	African marigold	Native of Mexico	Herb	Discourages whitefly
69. Compositae	*Tridax procumbens*	Bakenbox	Subtropics and tropics	Herb	Fever, catarrah
70. Compositae	*Verbesina* sp	Various	No range given	Various	Not mentioned
71. Compositae	***Vernonia acumiata***	**Bitter bush**	**Endemic**	**Shrub**	**Not mentioned**
72. Compositae	***Vernonia pluvalis***	**No name given**	**Endemic**	**Shrub**	**Colic**
73. Compositae	*Vernonia remotiflora*	Not in Adams (1)			
74. Compositae	*+Wedelia gracilis*	Consumption weed	Greater Antilles, Antigua	Herb	Abortion, fever, sores, colds
75. Compositae	*+Wedelia trilobata*	Running or yellow marigold	Tr. America, Hawaii, W. Africa	Herb	Abortion, fever, sores, colds
76. Convolvulaceae	*+Cuscuta americana* L.	Love weed, dodder	Subtropics and tropical Amer.	Vine	Acaricidal, antihelminthic, colic, laxative
77. Convolvulaceae	*+Evolvulus arbuscula*	Sea thyme	Bahamas, WI	Shrub	Bellyache
78. Convolvulaceae	*Ipomea fistulosa*	Morning glory	Widespread	Shrub	Not mentioned
79. Crassulaceae	*+Bryophyllum pinnatum*	Leaf of life	Tropics	Herb	Cold, pain, dysmenorrhoea, boils, ulcers, insect bites
80. Cruciferae	*Nasturtium officinale*	Water cress	Cultivated world-wide	Herb	Good for heart, antiscorbutic, slight stimulant, diuretic, expectorant
81. Cucurbitaceae	*+Cucurbita pepo*	Field pumpkin	Cultivated world-wide	Vine	Vermifuge, antihelminthic
82. Cucurbitaceae	*+Fevillea cordifolia*	Antidote caccoon	Tropical America, WI	Vine	Dress wounds, emetic, purgative, poison antidote, toxic on ingestion
83. Cucurbitaceae	*+Momordica charantia*	Cerassee	Subtropics and tropics	Vine	Colds, fever, sores, menstrual disorder, cures bad blood and gripe, stomach ache

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
84. Cucurbitaceae	*+Sechium edule*	Cho-cho	Tropics	Vine	Hypertension
85. Dioscoreaceae	*Dioscorea polygonoides*	Wild yam	C. & S. trop. America, WI	Vine	Acaricidal
86. Dioscoreaceae	*Dioscorea dumetorum*	Yam	Tropics	Vine	Not mentioned
87. Euphorbiaceae	*Codiaeum variegatum*	Garden croton	Tropics	Shrub	Not mentioned
88. Euphorbiaceae	*Croton eluteria*	Cascarilla	Tropics	Shrub	Stimulant, tonic
89. Euphorbiaceae	*Croton flavens*	Yellow balsam	Yuatan, WI	Shrub	Earache, sore throat, pneumonia
90. Euphorbiaceae	*+Croton humilis*	Pepper rod	Florida, Bahamas, Mexico, WI	Shrub	Venereal sores, insecticidal
91. Euphorbiaceae	*+Croton linearis*	Rosemary	Florida, Bahamas, WI	Shrub	Tranquiliser, circulation, insecticidal
92. Euphorbiaceae	*Croton lucidas*	Basket hoop	Bahamas, WI	Shrub	Not mentioned
93. Euphorbiaceae	*Croton* sp	Various	Various	Shrb/Herb	Cold, cough, expectorant, tonic, diarrhoea, ear aches, sore throat, pneumonia, malaria, rheumatism, hair wash, dandruff, gripe
94. Euphorbiaceae	*Euphorbia cyathophora*	No name given	Tropics	Herb	Wound, skin ulcer
95. Euphorbiaceae	*Euphorbia hirta*	Milk weed	Subtropics and tropics	Herb	Anti-hypertensive, diarrhoea, asthma
96. Euphorbiaceae	*Euphorbia pulcherrima*	Poinsettia	Widespread	Shrub	Not mentioned
97. Euphorbiaceae	*Hura crepitans*	Sand box	Tropics	Tree	Not mentioned
98. Euphorbiaceae	*Jatropha gossypiifolia*	Belly-ache bush	Subtropics and tropics	Shrub	Purgative, constipation, belly-ache
99. Euphorbiaceae	*+Ricinus communis*	Oil nut bush, castor oil plant	Tropics, cultivated widely	Shrub	Fever, boils, purge, toothache, diuretic, stomach-ache, headache, eye lotion
100. Gesneriaceae	***+Rytidophyllum tomentosum***	**Search me heart**	**Endemic**	**Shrub**	**General drink, colds**
101. Graminae	*+Bambusa vulgaris*	Bamboo	Widespread world-wide	Shrub	Fevers, malaria
102. Graminae	*Cymbopogon citratus*	Lemon grass, fever grass	Tropics, widely cultivated	Herb	Cold, fever, nervous headache, medicinal oil
103. Graminae	*Vetivera zizanioides*	Khus khus	Tropics, widely cultivated	Herb	Insecticidal
104. Guttiferae	***Clusia portlandiana***	**No name given**	**Endemic**	**Tree**	Not mentioned
105. Labiatae	*+Hyptis pectinata*	Piaba	Tropics	Herb	Colds, cuts, sores, headache, tonsilitis,
106. Labiatae	*+Hyptis verticillata*	John Charles, wild mint	Florida, Mexico to Colombia, WI	Herb	Colds, gout, marasmus, eczema, psoriasis, scabies, athlete's foot, colic, skin disease, itching, arthritis
107. Labiatae	*+Leonotis nepetiflora*	Christmas candle-stick	Tropics	Herb	Fever, abortifacient
108. Labiatae	*+Mentha viridis*	Spear mint	Widespread	Herb	Checks vomiting, stomach trouble
109. Labiatae	*+Ocimum basilicum*	Sweet parsley	Tropics	Herb	Colds, liver ailment, runs mosquitoes
110. Labiatae	*+Ocimum micranthum*	Barsley	Subtropics and tropics	Herb	Laxative for babies, fever, pain, colds
111. Labiatae	*+Plectranthus amboinicus*	Soup mint, French thyme	Tropics	Herb	Seasoning, cold remedies
112. Labiatae	*+Salvia serotina* Wild	Chicken weed	WI*	Herb	Fever, colic, biliousness, constipation, insecticidal
113. Labiatae	*+Satureja brownei*	Penny royal	Tropical C. & S. America, WI	Herb	Diarrhoea, stomach ache
114. Labiatae	*+Satureja viminea*	Wild mint	Cuba, Hispaniola*	Shrub	Indigestion, flatulence, colic
115. Lauraceae	*+Cinnamomum zeylanicum*	Cinnamon	Widely cultivated	Tree	Flavouring, carminative, antiseptic oil
116. Lauraceae	*+Persea americana* Mill.	Pear, alligator pear	Subtropics and tropics	Tree	Good for blood, blood pressure, colds, pains
117. Liliaceae	*Aloe vera*	Sinkle Bible	Tropics, widely grown	Herb	Biliousness, colds, wounds, headaches, purgative, improves appetite, dewormer
118. Logamiaceae	*+Spigelia anthelmia* L.	Worm grass, pink weed	Tropics	Herb	Acaricidal, dewormer

PRN and Family	*Botanical name*	*Common name*	*Growth range*	*Growth Habit*	*Ethnomedicine*/Biological activities (Uses as stated in papers)
119. Loranthaceae	***+Oryctanthus occidentalis***	**Mistletoe, scorn-the-earth**	**Endemic**	**Shrub**	**Fever, pain, high blood pressure**
120. Loranthaceae	***Phoradendron wattii***	**No name given**	**Endemic**	**Shrub**	**Not mentioned**
121. Lythraceae	*+Cuphea parsonsia*	Strong back	Mexico, Bahamas, WI	Vine	Menstrual pains
122. Lythraceae	*+Punica granatum*	Pomegranate	Subtropics and tropics, cultivated	Shrub	Tapeworm, vomiting
123. Malvaceae	*Abutilon trisulcatum*	No name given	Mexico, Bahamas, WI	Herb	Not mentioned
124. Malvaceae	*Hibiscus rosa-sinensis*	Double hibiscus, shoe-black	Tropics, widely grown	Shrub	Colds, hernia
125. Malvaceae	*+Hibiscus sabdariffa*	Sorrel	Tropics, widely cultivated	Shrub	Cooling, diuretic, antiscorbutic
126. Malvaceae	*+Sida acuta*	Broom weed	Tropics	Shrub	Fever, colic
127. Malvaceae	*Sida rhombiflora*	No name given	Subtropics and tropics	Herb	Indigestion, haemorrhoids
128. Malvaceae	*Thespesia populnea*	Seaside mahoe	Tropics	Tree	Insecticidal
129. Malvaceae	*+Urena lobata* L.	Burmallow	Tropics	Herb	Colds, expectorant
130. Meliaceae	*Azadirachta indica* Juss	Neem	Subtropics and tropics	Tree	Insecticidal, fungicidal, nematocidal, medicinal, cosmetics, soaps, toothpaste
131. Meliaceae	*+Cedrela odorata*	West Indian Cedar	Tropics	Tree	Psoriasis, internal
132. Meliaceae	*Trichilia havanensis*	No name given	Mexico to S. America, WI	Tree	Not mentioned
133. Meliaceae	*Trichilia hirta* L.	Wild mahogany	Mexico to Brazil, WI	Tree	Not mentioned
134. Mimosaceae	*+Mimosa pudica* L.	Shame mi lady, shame weed	Tropics, widespread	Herb	Colds, gonorrhoea, sedative
135. Moraceae	*Artocarpus altilis* Park	Breadfruit	Tropics	Tree	High blood pressure
136. Moraceae	*Artocarpus heterophyllus*	Jackfruit	Subtropics and tropics	Tree	Not mentioned
137. Moraceae	*+Cecropia peltata*	Trumpet tree	Mexico to Venezuela, WI	Tree	Colds, high blood pressure, sore throat
138. Moraceae	*Ficus perforata* L.	Wild fig	Cen. Amer., Bahamas, WI	Tree	Not mentioned
139. Moraceae	*Trophis racemosa*	Ramoon	Mexico to Brazil, WI	Tree	Not mentioned
140. Myoporaceae	*Bontia daphnoides*	Kidney bush	Nrn S. America, WI	Tree	Insecticidal, acaricidal
141. Myristiaceae	*+Myristica fragrans*	Nutmeg	E. and WI, cultivated	Tree	Official in pharmacopoeias
142. Myrtaceae	*Eucalyptus* spp. eg *robusta*	Eucalyptus	Native of Australo-*E.* Malaysia	Tree	Clears the nostrils, colds fever, ulcer dressing, dewormer
143. Myrtaceae	*+Pimento dioica* L.	Pimento	Tropics, some species are endemic	Tree	Stomach aches, menstruation pains, good for blood
144. Myrtaceae	*+Psidium guajava*	Guava	Tropics, cultivated	Tree	Diarrhoea, dysentery
145. Ochnaceae	*+Sauvagesia brownei*	Iron shrub	Cuba, Jamaica*	Herb	Menstrual pain, weak back, irritation of bladder
146. Oleaceae	*Jasminium fluminense*	Azores jasmine	Tropics	Shrub	Snake bite antidote
147. Palmae	*+Cocos nucifera*	Coconut	Widespread cultivation	Tree	Controls sugar, good for blader, astringent, sores, ulcers, coughs
148. Papaveraceae	*Bocconia frutescens*	John crow bush	C. Amer., Hawaii, WI	Tree	Purgative, vermifuge, skin ulcer
149. Papilionaceae	*Alysicarpus vaginalis*	Medina	Subtropics and tropics	Herb	Aphrodiasiac
150. Papilionaceae	*+Cajanus cajan* L.	Gungo pea	Subtropics and tropics, cultivated	Shrub	Colds, diarrhoea, mouthwash
151. Papilionaceae	*Crotalaria juncea*	Sunnhemp	Tropics	Herb	Haemoptysis
152. Papilionaceae	*Crotalaria retusa*	Rattle weed	Subtropics and tropics	Herb	Not mentioned
153. Papilionaceae	*+Desmodium canum* canum	Sweetheart, var. strongback	Tropics	Herb	Colds, kidney trouble, weak back, tonic, menstrual pain, induces sleep, headache
154. Papilionaceae	*Erythrina corallodendrum*	Spanish machete	Gr. Cayman, WI*	Tree	Not mentioned

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
155. Papilionaceae	+*Gliricida sepium*	Quick stick, Aaron's rod	Tropics, widely culti.	Tree	Fever, colds, pain, gonorrhoea
156. Papilionaceae	*Lonchocarpus latifolius*	Dogwood	Mexico to Brazil, WI	Tree	Vermifuge, menstrual cramps
157. Papilionaceae	+*Piscidia piscipula*	Dogwood	Florida, Mexico, Bahamas, WI	Tree	Backache, sedatives, toothache
158. Papilionaceae	+*Stylosanthes viscosa*	Poor man's friend	Mexico to Brazil, WI	Herb	Colds, kidney trouble
159. Passifloraceae	+*Passiflora maliformis*	Sweet cup	Northern S. America, WI	Vine	Tonic
160. Phytolaccaceae	+*Petiveria alliacea*	Guinea hen weed	Tropics	Shrub	Fever, antidote to poisoning, headache
161. Phytolaccaceae	+*Rivina humilis*	Dog blood, inflammation weed	Tropics	Herb	Colds, diarrhoea, marasmus
162. Piperaceae	***Peperomia clusifolia***	**No name given**	**Endemic**	**Herb**	**Not mentioned**
163. Piperaceae	+*Peperomia pellucida*	Rat ears, pepper elder	Tropics	Herb	Flu, diuretic, hypertension, diarrhoea, cough, convulsions
164. Piperaceae	***Peperomia proctorii***	**No name given**	**Endemic**	**Herb**	**Not mentioned**
165. Piperaceae	*Piper aduncum*	No name given	Tropics	Tree	Fever, pain, wounds, toothache
166. Piperaceae	**+*Piper amalgo* var *nigrinodum***	**Pepper elder, black jointer**	**Endemic**	**Shrub**	**Flatulence, constipation, cough, colds, tonic, pain, stomach ache**
167. Piperaceae	*Piper auritum*	No common names given	No range given	Shrub	Fever, pain, wounds, toothache, colds, asthma, insect repellant, remedies for cold, stomach ache
168. Piperaceae	*P. betle*		Tropics, cultivated	Vine	
169. Piperaceae	***P. fadyenii***		**Endemic**	**Shrub**	
170. Piperaceae	*P. hispidum*		WI*	Tree	
171. Piperaceae	**+*P. murrayanum***		**Endemic**	**Tree**	
172. Piperaceae	***P. verrucosum***		**Endemic**	**Tree**	
173. Piperaceae	+*Pothomorphe umbellate*	Cow foot	Tr. America, W. Africa	Herb	Colds, headache, boils, tapeworm
174. Polygonaceae	*Antigonon leptopus*	Coralita	Tropics	Vine	Cough, throat constriction
175. Polygonaceae	*Coccoloba krugii*	No name given	Bahamas, WI	Tree	Not mentioned
176. Polypodiaceae	*Cycloptis semicordata*	Tall fern	Tropics, widespread	Herb	Acaricidal
177. Polypodiaceae	*Lastrepsis effusa* (Sw.) Tindale	Fine fern	Tropics, widespread	Herb	Not mentioned
178. Portulacaceae	+*Portulaca oleracea*	Jump up & kiss me, purslane	Subtropics and tropics	Herb	Heart tonic, cooling, diuretic
179. Rhamnaceae	+*Gouania lupuloides*	Chew stick	Florida, Bahamas, WI	Vine	Toothbrush, stimulates appetite, dropsy
180. Rhizophoraceae	*Rhizophora mangle*	Red mangrove	Tropical coasts	Tree	Moderately insecticidal
181. Rubiaceae	*Coffea liberica*	Liberian coffee	Tropics	Shrub	Not mentioned
182. Rubiaceae	+*Borreria laevis*	Button weed	Subtropics and tropics	Herb	Colds, fever, constipation
183. Rubiaceae	+*Morinda royoc*	Strong back	Central Amer.	Shrub	Tonic, aphrodisiac
184. Rutaceae	*Amyris plumieri*	Candle wood	Central Amer.	Shrub	Not mentioned
185. Rutaceae	+*Citrus aurantifolia*	Lime	Tropics	Tree	Colds, stomach ache, insomnia, ringworm, ulcer, fever, sore throat, wounds, eye disease
186. Rutaceae	+*Citrus aurantium*	Seville orange	Tropics	Tree	Cold, stomach aches, bitter tonic, sore throat, rheumatism
187. Rutaceae	*Citrus reticulata*	Tangerine	Tropics	Tree	Not mentioned
188. Rutaceae	*Fagara elephantiasis*	Yellow sanders	Mexico, Costa Rica, WI	Tree	Not mentioned
189. Rutaceae	*Fagara martinicensis*	Bitter bush/ prickly yellow	Nrthn S. America, WI	Tree	Carminative, astringent, diuretic, ulcer, rheumatism
190. Rutaceae	*Murraya koenigii*	No name given	Not in Adams (1)	Shrub	Antifungal, diabetes, flavouring
191. Rutaceae	*Murraya paniculata*	Sweet neem, prickly yellow	Tropics	Tree	Diarrhoea, wound dressing

PRN and Family	*Botanical name*	*Common name*	*Growth range*	*Growth Habit*	*Ethnomedicine*/Biological activities (Uses as stated in papers)
192. Rutaceae	***Spathelia glabrescens***	**No name given**	**Endemic**	**Tree**	**Not mentioned**
193. Rutaceae	***Spathelia sorbifolia***	**Mountain pride**	**Endemic**	**Tree**	**Not mentioned**
194. Sapindaceae	+*Blighia sapida*	Ackee	WI, W. Africa	Tree	Colds, pain, acaricidal, insecticidal
195. Sapindaceae	*Melicoccus bijugatus*	Guinep, Guineapea	Tropics	Tree	Hypertension, fever, cough
196. Sapotaceae	*Chrysophyllum cainito*	Star apple	Tropics	Tree	Not mentioned
197. Sapotaceae	+*Manilkara zapota*	Naseberry	Venezuela, WI	Tree	Nerve tonic
198. Scrophulariaceae	*Capraria biflora*	Goat weed	Subtropics and tropics	Herb	Fever, influenza, indigestion
199. Simaroubaceae	***Alvaradoa jamaicensis***	**No name given**	**Endemic**	**Tree**	**Not mentioned**
200. Simaroubaceae	+*Picrasma excelsa*	Bitter wood	Greater Antilles	Tree	Dewormer, tonic, thread worm, malaria, appetite stimulant, insecticide
201. Simaroubaceae	*Simarouba glauca* DC	Bitter damson, bitter wood	Florida, C. Amer., WI, Bahamas	Tree	Malaria, diarrhoea, insecticidal, acaricidal
202. Smilacaceae	+*Smilax balbisiana*	Chainy root	Cuba, Hispaniola*	Vine	Tonic, general pain
203. Smilacaceae	+*Smilax regelii*	Jamaican sarsaparilla	Widely distributed	Vine	
204. Solanaceae	+*Capsicum annum*	Sweet pepper	Tropics	Shrub	Stimulant, rheumatism, dysentery, yaws,
205. Solanaceae	+*Capsicum baccatum*	Scotch bonnet	Tropics	Shrub	fever, lotion for ringworm of scalp, wounds,
206. Solanaceae	+*Capsicum frutescens*	Bird pepper	Subtropics and tropics	Shrub	sores, boils, influenza, mouthwash, dewormer
207. Solanaceae	+*Datura stramonium*	Tora apple, jimson weed	Subtropics and tropics	Herb	Asthma, burns, ulcers, sinus infection, headaches, sores
208. Solanaceae	+*Nicotiana tabacum* L.	Tobacco	Subtropics and tropics	Herb	Toothache
209. Solanaceae	+*Solanum torvum*	Susumber	Tropics	Shrub	Flu, colds, vermifuge, opens appetite
210. Sterculiaceae	+*Cola acuminata*	Bissy	Tropics	Tree	Stomach pain, purge, dysentery, tonic, cuts, wounds, allays hunger
211. Sterculiaceae	+*Guazuma ulmifolia*	Bastard cedar	Tropics	Tree	Cuts and sores
212. Turneraceae	+*Turnera ulmifolia*	Ramgoat dash-a-long	C. America, WI	Herb	Colds, debility, abortion, fever, prickly heat, constipation
213. Umbelliferae	+ *Eryngium foetidum*	Spirit weed	Tr. America, WI, W. Africa	Herb	Colds, fits, convulsions, fainting, ulcers, headaches
214. Umbelliferae	+*Foeniculum vulagare*	Fennel, aniseed	Widely cultivated	Herb	Cold
215. Urticaceae	**+*Pilea microphylla* var *microphylla***	**Baby puzzle**	**Endemic**	**Herb**	**Diarrhoea, asthma**
216. Urticaceae	+*Pilea microphylla* var *trianthemoide*	Artillery plant	WI	Herb	Diarrhoea, asthma
217. Verbenaceae	*Clerodendrum*	Lady Nugent rose	Tropics	Shrub	Headache
218. Verbenaceae	+*Lantana camara*	White sage	Tropics, widespread	Shrub	Gonorrhoea, measles, chicken pox, wound dressing, coughs
219. Verbenaceae	+*Lantana involucrata*	Wild mint	Florida, WI, Galapagos Ils	Shrub	Cold, fever, astringent, aromatic
220. Verbenaceae	+*Lantana trifolia*	Wild sage	Tr. America, W. Africa	Shrub	Constipation, good for blood, night sweats
221. Verbenaceae	*Lantana urticifolia*	Black sage	WI, Gr. Cayman*	Shrub	Indigestion, menstruation, tightness of chest
222. Verbenaceae	+*Lippia alba*	Colic mint	Texas, Mexico to Argentina, WI	Shrub	Checks vomiting, indigestion, flatulence
223. Verbenaceae	*Petrea volubilis*	Purple wreath	Tropics	Vine	Abortifacient
224. Verbenaceae	+*Priva lappulacea*	Clammy bur	Subtropics and tropics	Herb	Abortifacient, colds
225. Verbenaceae	+*Stachytarpheta jamaicensis*	Vervine	Florida, Bahamas, C. America, WI	Herb	Eczema, colds, worms, gonorrhoea, eye disorders, sores
226. Zingiberaceae	+*Zingiber officinale* Wild	Ginger	Widely distributed, cultivated	Herb	Carminative, digestive stimulant, wounds, fever, toothache
227. Acanthaceae	+*Andrographis paniculata*	Wild rice, rice bitters	Widespread	Herb	Fever, colds, malaria, bitter stomachic, diabetes, antihelminthic
228. Acanthaceae	+*Blechum pyramidatum*	John bush	Tr. America, Pacific	Shrub	Baths, sore feet, colds
229. Amaranthaceae	+*Amaranthus sp.*	Callaloo	Tropics	Herb	Good for bowels, poultice for boils

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
230. Amaranthaceae	+*Chamissoa altissma*	Basket withe	Tr. America, WI	Vine	Similar use as callaloo
231. Amaranthaceae	+*Iresine diffusa*	Juba's bush	Tropics	Shrub	Colds, pain in bowels, colic
232. Amaryllidaceae	+*Hippeastrum puniceum*	Maroon lily	Tropics	Herb	Swellings, sores
233. Anacardiaceae	+*Spondias purpurea*	Jamaican plum	Tropics	Tree	Colds, skin diseases, gum infection, dysentery
234. Apocynaceae	+*Echites umbellata*	Savannah flower	Florida, Mexico, WI	Herb	Poultice for sore leg
235. Araceae	+*Colocasia esculenta*	Dasheen	Widely cultivated	Herb	Biliousness, asthma, consumption, laxative
236. Asclepiadaceae	+*Asclepias nivea*	White head	American tropics	Shrub	Vermifuge, stops bleeding, boils
237. Asclepiadaceae	+*Funastrum clausum*	Milk withe	No range given	Vine	Cold remedy
238. Boraginaceae	**+*Cordia jamaicensis***	**Black sage**	**Endemic**	**Shrub**	**Colds, indigestion, high blood pressure**
239. Boraginaceae	+*Heliotropium indicum*	Scorpion weed	Pantropical, Gr. Cayman	Herb	Diuretic, sores, ulcers, fevers, skin complaints, head lice, insect bites
240. Caesalpiniaceae	+*Caesalpinia coriaria*	Libi-libi	Venezuela, Columbia, WI	Tree	Sore throat, stomach-ache, tonic
241. Caesalpiniaceae	+*Cassia fistula*	Cassia stick	Native of tropical Asia	Tree	Laxative, purgative, malaria, gout, dysentery, rheumatism, diuretic
242. Caesalpiniaceae	+*Cassia italica*	Jamaica senna	Widely culti.	Herb	Cathartic, dressing for burns, ulcers
243. Campanulaceae	+*Hippobroma longiflora*	Horse poison	Tr. America, WI, Pacific	Herb	Pain, colds. Can be poisonous
244. Canellaceae	+*Canella winterana*	Wild cinnamon	Florida, Bahamas, WI	Shrub	Pain, spice, aromatic bitter, stimulant, gout, dysentery, syphilis
245. Caprifoliaceae	+*Sambucus simpsonii*	Elder	S.E. USA, C. America	Tree	Colds, coughs, fevers, constipation, ringworm
246. Commelinaceae	+*Commelina elegans*	Water grass	Tropical America	Herb	Colds, malaria, eye lotion, gonorrhoea
247. Commelinaceae	+*Zebrina pedula*	Wandering Jew	Subtropics and Tropics	Herb	Colds, high blood pressure, consumption
248. Compositae	+*Artemisia* sp.	Garden bitters	Widespread	Herb	Stomach ache, constipation, dewormer
249. Compositae	+*Chaptalia nutans*	Dandelion	Tropics	Herb	Diuretic, colds, constipation, wounds, boils
250. Compositae	+*Clibadium surinamense*	Jackass breadnut	C. and S. America, WI	Shrub	Cold remedy
251. Compositae	+*Conyza bonariensis*	Asthma weed	Subtropics and tropics	Herb	Asthma
252. Compositae	+*Conyza canadensis*	Dead weed	Widely naturalized	Herb	Diarrhoea, dropsy, skin disease, sore throat
253. Compositae	+*Emilia sonchifolia*	Consumption weed	Tropics	Herb	Colds, cough, sore eye
254. Compositae	+*Erigeron karvinskyanus*	Rockside daisy	Mexico to Venezuela, WI	Herb	Colds
255. Compositae	+*Eupatorium macrophyllum*	Hemp agrimony	Mexico to Paraguay, WI	Herb	Colds, coughs
256. Compositae	**+*Eupatorium triste***	**Bitter bush**	**Endemic**	**Shrub**	**Not mentioned**
257. Compositae	+*Neurolaena lobata*	Cow gall bitter	Tr. America	Herb	Colds, stomach disorders, bitter, sores, diuretic, ulcers, consumption
258. Compositae	+*Pectis* sp.	Stink weed	WI*	Herb	Fever
259. Compositae	+*Pluchea odorata*	Wild tobacco	S.E. USA, C. America, WI	Herb	Sores, for labour pains, antidote, stomachic
260. Compositae	**+*Senecio discolor***	**White-back**	**Endemic**	**Shrub**	**Colds, fever**
261. Compositae	+*Vernonia divaricata*	Bitter bush	Jamaica, Gr. Cayman*	Shrub	Colic, fever, biliousness. Some toxic
262. Convolvulaceae	**+*Ipomoea jamaicensis***	**Wild potato slip**	**Endemic**	**Vine**	**Purge to remove worms**
263. Convolvulaceae	+*Merremia dissecta*	Know you	?	Vine	Cathartic
264. Cucurbitaceae	+*Citrullus lanatus*	Watermelon	Widely cultivated	Vine	Cooling, fever, diuretic, vermifuge
265. Cucurbitaceae	+*Cucumis sativus*	Cucumber	Widely cultivated	Vine	Cooling, antihelminthic
266. Cyperaceae	+*Cyperus articulatus*	Adrue	Subtropics and tropics	Herb	Vomiting, diarrhoea, stimulant, toothache, headache, bowel pain
267. Euphorbiaceae	+*Acalypha wilkesiana*	Copper leaf	Native of Pacific Islands	Tree	Headache
268. Euphorbiaceae	+*Alchornea latifolia*	Dove wood	Mexico to Panama, WI	Tree	Toothache cure, pain
269. Euphorbiaceae	**+*Croton wilsoni***	**Wild camphor**	**Endemic**	**Herb**	**Colds**

PRN and Family	***Botanical name***	***Common name***	***Growth range***	***Growth Habit***	***Ethnomedicine*/Biological activities (Uses as stated in papers)**
270. Euphorbiaceae	+*Euphorbia glomerifera*	Milk weed	Tropics	Herb	Colds, indigestion, latex as dressing for cuts, juice removes warts, high blood pressure, back pains, tonic, diarrhoea, gonorrhoea
271. Euphorbiaceae	+*Euphorbia hyssopiflora*	Milk weed	Tropics	Herb	
272. Euphorbiaceae	+*Euphorbia lasiocarpa*	Milk weed	Mexico to Peru, WI	Herb	
273. Euphorbiaceae	+*Euphorbia prostrata*	Milk weed	Subtropics and tropics	Herb	
274. Euphorbiaceae	+*Euphorbia thymifolia*	Eyebright	Subtropics and tropics	Herb	Vermifuge, astringent, laxatives, colds, cuts
275. Euphorbiaceae	+*Jatropha curcas*	Physic nut	Widespread	Tree	Purgative
276. Euphorbiaceae	+*Manihot esculenta*	Cassava	Widely cultivated	Shrub	Poultice for sores
277. Euphorbiaceae	+*Phyllanthus amarus*	Carry-me-seed	Widespread	Shrub	Fevers, genito-urinary infections, malaria, gonorrhoea, dysentery, diabetes, jaundice, stomach-ache
278. Filicineae	+*Adiantum tenerum*	Maidenhead fern	No range given	Herb	Colds, good for heart
279. Filicineae	+*Dryopteris* sp. eg *D. denticulate*	White stick	No range given	Herb	Colds
280. Filicineae	+*Polypodium exiguum*	Hug-me-tight	No range given	Herb	Bath for 'female weakness'
281. Filicineae	+*Polypodium phyllitidis*	Cow tongue	No range given	Herb	Cold, febrifuge, astringent
282. Graminae	+*Cenchrus* spp. eg *C. pauciflorus*	Burr grass	Tropics	Herb	Fever, colds, vomiting
283. Graminae	+*Cynodon dactylon*	Bermuda grass	Tropics	Herb	Tea good for kidneys, indigestion, wounds
284. Graminae	+*Panicum maximum*	Guinea grass	Widespread in tropics	Herb	Fevers
285. Graminae	+*Saccharum officinarum*	Sugar-cane	Widely cultivated	Herb	Beverage
286. Labiatae	+*Hyptis capitata*	Iron wort	Tropics	Herb	Colds, constipation, asthma, wounds, ulcers, gargle
287. Labiatae	+*Hyptis suaveolens*	Spikenard	Tropics	Herb	Nevous and visceral disorders, stomach ache, colic, fever
288. Labiatae	+*Salvia occidentalis*	Field basil	Tr. America	Herb	Ophthalmia, amenorrhoea
289. Lauraceae	+*Cinnamomum camphora*	Camphor	Introduced, native of Asia	Tree	Headache, fever, pain, high blood pressure
290. Liliaceae	+*Allium sativum*	Garlic	Widely cultivated	Herb	Well-known medicinal – expectorant, diuretic, asthma, skin disease, rheumatism
291. Loranthaceae	***+Dendropemon pauciflorus***	**Mistletoe**	**Endemic**	**Parasitic**	**Fever, pain, high blood pressure**
292. Malvaceae	+*Gossypium* spp. eg *G. hirsutum*	Cotton	Widely cultivated	Shrub	Colds, dysentery, diarrhoea, insect bite
293. Malvaceae	+*Hibiscus elatus*	Blue mahoe	Native of Cuba, Jamaica	Tree	Dysentery, colds
294. Malvaceae	+*Kosteletzkya pentasperma*	No name given	Mexico to Venezuela, WI	Herb	Dressing for cuts
295. Malvaceae	+*Malachra alceifolia*	Wild ochra	Mexico to Peru, WI	Herb	Colds, fever
296. Malvaceae	+*Malvastrum coromandelianum*	Mallow	Subtropics and tropics	Herb	Stomach pain
297. Malvaceae	+*Sida urens*	Wind bush	Subtropics and tropics	Shrub	Gripe
298. Marantaceae	+*Maranta arundinaceae*	Arrowroot	Widely cultivated	Herb	Diarrhoea, antidote for spider bites etc, dysentery
299. Melastomaceae	+*Clidemia hirta*	Soap bush	Tropics	Herb	Tea
300. Melastomaceae	+*Miconia laevigata*	Jonny berry	Mexico to S. America, WI	Herb	Sores, itch, bush bath
301. Meliaceae	+*Swietenia mahogoni*	Mahogany	Widespread in tropics	Tree	Astringent, diarrhoea, bitter, febrifuge
302. Menispermaceae	+*Cissampelos pareira*	Velvet leaf	Tropics	Vine	Colds, bitter tonic, diuretic, skin diseases, sores, gonorrhoea

PRN and Family	*Botanical name*	*Common name*	*Growth range*	*Growth Habit*	*Ethnomedicine*/**Biological activities (Uses as stated in papers)**
303. Moringaceae	+*Moringa oleifera*	Ben nut tree	Subtropics and tropics	Tree	Promotes digestion and appetite, pain, headache
304. Musaceae	+*Musa* spp. eg. *M. sapientum*	Banana, plantain	Widely cultivated	Herb	Stomach sourness, cooling astringent
305. Myrtaceae	**+*Pimenta jamaicensis***	**Wild pimento**	**Endemic**	**Tree**	**Colds, fever, diarrhoea, perfume**
306. Nyctaginaceae	+*Commicarpus scandens*	Rat ears	No range given	Herb	Colds
307. Nyctaginaceae	+*Mirabilis jalapa*	Four o'clock	Subtropics and tropics	Herb	Colds, fever, laxative
308. Oxalidaceae	+*Oxalis corniculata*	Yellow sorrel	Tropics	Herb	Cooling, febrifuge, antiscorbutic, stomachic
309. Papaveraceae	+*Argemone mexicana*	Mexican poppy	Tropics	Herb	Colds, eye disease, diarrhoea, dysentery
310. Papilionaceae	+*Abrus precatorius*	Red bead vine	Subtropics and tropics	Vine	Colds, emetic, purgative, antihelminthic, constipation, fever. Toxic before cooking
311. Papilionaceae	+*Andira inermis*	Cabbage bark	Tr. America, W. Africa	Tree	Dewormer, wounds. Dangerous in large doses
312. Papilionaceae	+*Desmodium axillare*	Wild pinder	Tr. America, WI	Herb	Back pain, flush out poison from kidneys, acne
313. Papilionaceae	+*Desmodium procumbens*	Pinder	Tropics	Herb	
314. Papilionaceae	+*Moghania strobilifera*	Wild hops	E. Indies, WI	Shrub	Fever
315. Papilionaceae	+*Stylosanthes hamata*	Donkey weed	Tr. America	Herb	Colds, kidney trouble, aphrodaisiac
316. Passifloraceae	+*Passiflora foetida*	Love-in-a-mist	Tropics	Vine	Good for kidneys
317. Passifloraceae	+*Passiflora rubra*	Goat hoof	Florida, Mexico, WI	Vine	Colds
318. Passifloraceae	+*Passiflora sexflora*	Goat foot	Florida, Mexico, WI	Vine	Colds, sores, stiff neck
319. Plantaginaceae	+*Plantago major*	English plaintain	Common	Herb	Eye lotion, dressing for ulcer, sores, wounds
320. Rubiaceae	+*Borreria verticillata*	Button Weed	Tr. America, Tr. Africa	Herb	Constipation, fever
321. Simaroubaceae	+*Picramnia antidesma*	Majoe bitters	C. America, WI	Shrub	Teething, yaws, veneral disease, colic, fevers, skin ulcers
322. Solanaceae	+*Physalis angulata*	Winter cherry	Subtropics and tropics	Herb	Gonorrhoea, ophthalmia
323. Solanaceae	+*Solanum ciliatum*	Cockroach poison	Tropics	Herb	Coughs, ringworm, dysmenrrhoea, constipation
324. Solanaceae	+*Solanum mammosum*	Bachelor's pear	Subtr. and tropical America	Shrub	Colds, cough
325. Solanaceae	+*Solanum americanum*	Black nightshade	Subtr. and tropical America	Herb	Good for blood, mouth sores, inflammation, ringworm
326. Sterculiaceae	+*Helicteres jamaicensis*	Screw tree	Bahamas, WI*	Tree	Coughs, biliousness, emetic, fever, tuberculosis
327. Sterculiaceae	+*Melochia tomentosa*	Tea bush	Subtr.and tropical America	Shrub	Colds
328. Sterculiaceae	+*Waltheria indica*	Raichie	Subtropics and tropics	Herb	Colds, abortion, haemorrhage, coughs, restorative, syphilis
329. Tilliaceae	+*Corchorus siliquosus*	Slippery bur	Trop. America, WI	Herb	Colds, asthma
330. Tilliaceae	**+*Triumfetta sloanei***	**Bur weed**	**Endemic**	**Herb**	**Checks bleeding, heals cuts**
331. Vitaceae	+*Cissus sicyoides*	Snake withe	Trop. America, WI	Vine	Colds, boils, back pain, gonorrhoea, rheumatism
332. Vitaceae	+*Cissus trifoliate*	Sorrel vine		Vine	Colds, sores, boils, ulcer
333. Zygophyllaceae	+*Guaiacum officinale*	Lignum vitae	Tropics, widespread	Tree	Sore throat, fevers, gargle, bellyache, cuts, biliousness, venereal disease, gout, rheumatism
334. Zygophyllaceae	+*Tribulus cistoides*	Kingston buttercup	Tropics	Herb	Colds, malaria, kidney and bladder infection

PRN = plant reference number; growth ranges are as given in Adams (1); information in **Bold** are for endemic plants according to Adams (1); the plants with a restricted range to the Caribbean are marked with (*); plants as given in Asprey and Thornton (5–9) are marked with (+), plants numbered **227.-334.** have not been scientifically tested at UWI, Mona.

Table 6: 'Medicinal' plants of Jamaica studied at the Faculty of Pure and Applied Sciences, University of the West Indies, Mona – *Research conducted between 1948 and 2001, and literature reference*

PRN ***and Botanical name***	***Common name***	***Research reported by December 2001***	***Literature reference***
1. *Asystasia gangetica*	?	Active against *S. aureus*+++	45
2. *Justicia pectoralis*	Fresh cut	No effect on 5 bacteria; no effect on *B. microplus*; Crude extract (CE) significantly increased clotting time; a coumarin isolated decreased inflammation, increased wound healing but not coagulation	14, 45, 91, 92, 93, 94
3. *Achyranthes indica*	Devil's horse whip	No effect on 5 bacteria, little antihelminthic activity; cardiovascular and antiarrhythmic effects.	45, 57
4. *Allium cepa*	Onion	Low antihelminthic potential (*Strongyloides stercoralis*)	44
5. *Anacardium occidentale*	Cashew	CE killed 7% *T. confusum* larvae; bark extract hypoglycaemic, induced hypotension in dogs; aqueous soln used in treatment of diabetes mellitus	3, 16, 93, 57
6. *Mangifera indica* L.	Mango	CE killed 23% *T. confusum*, active against *S. aureus*+	16, 45
7. *Spondias dulcis*	June plum	Has hypoglycaemic effect but activity is short-lived	3
8. *Spondias mombin*	Hog plum	Listed but not tested	93
9. *Anonna muricata*	Soursop	No effect on 5 bacteria, no effect on *S. stercoralis*; alcoholic extract of ripe fruit decreases motor activity, has sedative action; low activity against *B. mcroplus*	44, 45, 93, 95–100
10. *Annona reticulata* L.	Custard apple	CE killed 67% *T. confusum* larvae	16
11. *Annona squamosa*	Sweetsop	No effect on 5 bacteria, low antihelmintic activity against *S. stercoralis*	45, 98
12. *Catharanthus roseus*	Periwinkle	Active against *B. microplus* (66AI), no effect on 5 bacteria; CE is an effective hypoglycaemic agent; vinblastine and vincristine isolated – these are now used to treat leukaemia	3, 14, 45, 57, 93, 101, 102
13. *Ervatamia divaricata*	Coffee rose	CE killed 17% *T. confusum*, very active against *B. microplus* (82AI), CE toxic against *C. formicarius* 48hr Ld_{95} 0.83 µg/insect	14, 16, 103, 104
14. *Nerium oleander* L.	Oleander	Active against *B. microplus* (47AI).	14
15. *Oreopanax capitatus*	Woman wood	CE killed 20% *T. confusum*, active against *B. microplus* (40AI)	14, 16
16. *Polyscias guilfoylei*	Aralia	Listed but not tested	93
17. *Asclepias curassavica*	Red top	No activity on 5 bacteria, some activty against *B. microplus* (22AI)	14, 45
18. *Catalpa longissima*	French oak	No activity on 5 bacteria	45
19. *Crescentia cujete*	Calabash	No effect on *T. confusum*	16
20. *Tecoma stans*	Yellow cedar	No activity on 5 bacteria, CE killed 17% *T. confusum*.	16, 45
21. *Bixa orellana*	Annatto	CE killed 13% *T. confusum*, some activity against *B. microplus* (38AI); CE is an effective hypoglycaemic agent, isolated *trans*-bixin is hyperglycaemic, results suggest an effect at the level of receptor sites	3, 14, 16, 102, 105
22. *Cordia brownei*	Black sage	Active against *S. aureus*++ and *P. mirabilis*+	45
23. *Cordia globosa*	Sage	Listed but not tested.	93
24. *Cordia sebestena*	Geiger tree	No activity on 5 bacteria.	45
25. *Heliotropium angiospermum*	Pink sage	Listed but not tested	93
26. *Symphytum officinale*	Comfrey	No activity on 5 bacteria, very active against *B. microplus* (99AI); has hypoglycaemic effect but activity is short-lived	3, 14, 45
27. *Tournefortia hirsutissuma*	Cold withe	Listed but not tested	93
28. *Tournefortia volubilis*	Chigger nut	No activity on 5 bacteria	45
29. *Lepidium virginicum*	Wild pepper grass	No activity on 5 bacteria	45
30. *Bromelia pinguin*	Ping wing	Extract may have an utero-active compound which inhibits uterine mobility	106
31. *Buresera simaruba*	Red birch	No effect on *T. confusum*	16
32. *Opuntia cochenillifera*	Tuna	Listed but not tested	93
33. *Bauhinia divaricata*	Bull hoof	No activity on 5 bacteria	45
34. *Caesalpinia bonducella*	Gray nicker	New furanoditerpene Caesalpine F isolated but bioactivity not determined	107
35. *Cassia alata*	King of the forest	No activity on 5 bacteria; has hypoglycaemic effect but activity is short-lived	3, 45, 93
36. ***Cassia jamaicensis***	Jamaican broom	Active against *S. aureus*+++ and *P. mirabilis*+	45
37. *Cassia ligustrinia*	Piss a bed	Listed but not tested	93

PRN ***and Botanical name***	***Common name***	***Research reported by December 2001***	***Literature reference***
38. *Cassia occidentalis*	Dandelion	No activity on 5 bacteria; CE killed 20% *T. confusum*, not very active against *B. microplus* (7AI)	14, 16, 45, 93
39. *Haematoxylum*	Logwood *campechianum*	Active against *S. aureus*++ and *P. mirabilis*+, no effect on *T. confusum*, active against *B. microplus* (46AI)	14, 16, 45
40. *Peltophorum linnaei*	Brazilletto	CE killed 13% *T. confusum*	16
41. *Tamarindus indica*	Tamarind	No effect on 5 bacteria, good antihelminthic potential against *S. stercoralis*	45, 98
42. *Hippobroma longiflora*	Madam fate	No effect on *B. microplus*, active against *S. aureus*+	14, 45
43. ***Lobelia accuminata***	No name given	No effect on 5 bacteria	45
44. ***Lobelia viridiflora***	No name given	No effect on 5 bacteria	45
45. ***Cinnamodendron corticosum***	Mountain cinnamon	Isolated 4 drimane sesquiterpenoids and a sesquiterpene, these had antimicrobial, anticancer and mosquitocidal activity	15
46. *Cannibis sativa*	Ganja	No effect on 5 bacteria, active against *B. microplus* (58AI), found new chemical called cannabitriol, canasol effects eye, glaucoma; has hypoglycaemic effect but activity is short-lived	3, 14, 45, 57, 93, 108–111
47. *Cleome rutidosperma*	No name given	No effect on 5 bacteria	45, 112
48. *Cleome viscose*	Wild caia	Active against *Streptoccocus* A+; CLV, a novel diterpene cleomolide was isolated and had insecticidal activity, CE tested pharmacologically	45, 112–115
49. *Carica papaya*	Papaya	A questionnaire given indicated that green papaya is being used as a topical ulcer dressing (by 75% of nurses in 3 Jamaican hospitals) – advantages and disadvantages of treatment and recommendations given; no effect on *S. stercoralis*	44, 98, 99, 116
50. *Chenopodium ambrosioides*	Semicontract	Low antihelminthic activity	93, 98
51. *Terminalia catappa*	Almond	Low activity against *B. microplus*	93, 100
52. *Commelina benghalensis*	Water grass	No effect on 5 bacteria	45
53. *Commelina diffusa*	Water grass	Listed but not tested	93
54. *Acanthospermum camphoratum*	No name given	Flavanoids and heliangolide isolated	117
55. *Ambrosia hispida*	Bay tansy	Some antihelminthic potential against *S. stercoralis* (LT_{50} of 54.7 hrs)	44, 98, 99
56. *Bidens cyanpiifolia*	Spanish needle	No effect on 5 bacteria	45
57. *Bidens pilosa*	Spanish needle	Some activity against *S. stercoralis* (LT_{50} of 45.7 hrs)	44, 93, 98, 99
58. ***Bidens reptans* var *tomentosa***	Marigold	Listed not tested	93
59. ***Calea jamaicensis***	Camphor bush	Listed but not tested	93
60. *Calea americanum*	?	Listed but not tested	93
61. *Elephantopus mollis*	Iron weed	Listed but not tested	93
62. *Eupatorium odoratum*	Jack-in-the-bush	Active against *S. aureus*++, CE killed 60% *T. confusum*, active against *B. microplus* (44AI)	14, 16 ,45, 93
63. *Eupatorium villosium*	Bitter bush	Active against *S. aureus*++, low activity against *B. microplus* (14AI)	14, 45
64. *Mikania micrantha*	Guaco	Active against *E. coli*+, *S. aureus*+++ and *Streptococcus* A+; has hypoglycaemic effec but activity is short-lived	3, 45
65. *Parthenium hysterophorus*	Dog flea weed	Active against *S. aureus*+	45
66. *Pseudelephantopus spicatus*	Dog tongue	Active against *Streptococcus* A+	45
67. *Syndrella nodiflora*	Fatten barrow	No effect on 5 bacteria	45
68. *Tagetes erecta* L.	African marigold	CE killed 17% *T. confusum*	16
69. *Tridax procumbens*	Bakenbox	No effect on 5 bacteria	45
70. *Verbesina* sp.	several	Thesis not found	118
71. ***Vernonia acumiata***	Bitter bush	CE killed 23% *T. confusum*	16
72. ***Vernonia pluvalis***	?	Active against *S. aureus*++ and *Streptococcus* A+	45
73. *Vernonia remotiflora*	?	Tricin isolated but not tested for bioactivity	119
74. *Wedelia gracilis*	Consumption weed	CE no effect on *T. confusum*	16
75. *Wedelia trilobata*	Yellow marigold	No effect on 5 bacteria, active against *B. microplus* (42AI); no effect of *T. confusum*	14, 16, 45

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76. *Cuscuta americana*	Dodder, love weed	CE inactivated *Strongyloides stercoralis* larvae – It_{95} in 2.2 hours (very high antihelminthic potential – LT_{50} of 41.8 hrs), CE killed 100% *T. confusum*, active against *B. microplus* (61AI)	14, 16, 98, 99, 104, 120, 121
77. *Evolvulus arbuscula*	Sea thyme	No effect on 5 bacteria	45
78. *Ipomea fistulosa*	Morning glory	CE killed 17% *T. confusum*	16
79. *Bryophyllum pinnatum*	Leaf-of-life	No effect on 5 bacteria	45, 93
80. *Nasturtium officinale*	Water cress	Listed but not tested	91
81. *Cucurbita pepo*	Field pumpkin	Low antihelminthic potential (LT_{50} 80.8 hrs) against *S. stercoralis*	98, 99
82. *Fevillea cordifolia*	Antidote caccoon	Isolated 6 novel cucurbitacin – including a pentacyclic triterpene, cordifolin A – bioactivity not tested	122, 123, 124
83. *Momordica charantia*	Cerassee	Active against *S. aureus*+ and *Streptococcus* A++, active against *B. microplus* (71AI); anti-growth properties, leukaemic patient showed increased haemoglobin content	14, 45, 93, 125
84. *Sechium edule*	Cho-cho	Antihypertensive effect of water soluble CE, decreased mean arterial blood pressure	93, 126
85. *Dioscorea polygonoides*	Wild yam	CE killed 100% *T. confusum,* active against *B. microplus* (56AI)	14, 16, 95, 96
86. *Dioscorea dumetorum*	Yam	Isolated steroidal sapogenin, bioactivity not tested	127
87. *Codiaeum variegatum*	Garden croton	Listed but not tested	93
88. *Croton eluteria*	Cascarilla	No effect on 5 bacteria	45
89. *Croton flavens*	Yellow balsam	No effect on 5 bacteria; alkaloids isolated	45, 128
90. *Croton humilis*	No name given	Peptides isolated; alkaloids isolated	128, 129
91. *Croton linearis*	Rosemary	No effect on 5 bacteria, killed 37% *T. confusum*; isolated insecticdal diterpene was lethal to *Cylas formicus* (72hr LD_{50} of 0.32 µg/insect)	16, 45, 128, 130
92. *Croton lucidas*	Basket hoop	Terpenes isolated	131
93. *Croton* sp. Including above sp, *C. corytifolius, C. discolor, C. lobatus, C. nitens, C. plumieri, C. trinitatis* and *C. wilsonii*	Various	Morphinandienones and proporphines isolated; absolute stereochemistry of crotonitenone (progenitor of natural products having biological activity) elucidated; alkaloids and diterpenes isolated; isolated crotonosine and romifoliol	128, 132–141
94. *Euphorbia cyathophora*	No name given	Active against *S. aureus*	45
95. *Euphorbia hirta*	Milk weed	Angiotensin converting enzyme inhibiting and anti-dipsogenic activity	142
96. *Euphorbia pulcherrima*	Poinsettia	CE killed 17% *T. confusum*	16
97. *Hura crepitans*	Sand box	Listed but not tested	93
98. *Jatropha gossypiifolia*	Belly-ache bush	Inhibitory action in animal tumour *in vitro* systems. Isolated jatrophone, a macrocyclic diterpene used clinically as an anti-leukaemic agent	128
99. *Ricinus communis*	Castor oil	No effect on 5 bacteria, very active against *B. microplus* (82AI); low antihelminthic activity against *S. stercoralis*	14, 45, 93, 98
100. ***Rytidophyllum tomentosum***	Search me heart	Active against *S. aureus*+++ and *Streptococcus*+, low antihelminthic activity	45
101. *Bambusa vulgaris*	Bamboo	Listed but not tested	93
102. *Cymbopogon citraus*	Lemon grass	Relatively active against *Cylas formicarius* and inhibited oogenesis of *B. microplus*	93, 100
103. *Vetivera zizanioides*	Khus khus	No effect on *T. confusum*	16
104. ***Clusia*** spp	?	New isoprenylated derivatives (*C. portlandana*), new benzopyran derivative (*C. plukenetti*)	143, 144, 145
105. *Hyptis pectinata*	Piaba	No effect on 5 bacteria (*H. suaveolus* had relatively low acaricidal activity against *B. microplus*)	45, 100
106. *Hyptis verticillata*	John Charles	Reisolated 4'-demethyldesoxypodo-phyllotoxin and other phyllotoxin having potential as anti-cancer agents; an isolated sesquiterpene (cadina-4,10(15)-dien-3-one) disrupted oviposition, hatching, not lethal to adult *B. microplus* but was toxic to *Cylas formicarius* (90% mortality after 48 hour at 3.6 mg/g insect), CE active against *Streptococcus* Group A, B and D; isolated a flavonol with antitumour and antimicrobial activity and an inhibitor of aldose reductase	45, 46, 50, 93, 146

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107. *Leonotis nepetiflora*	Christmas candlestick	No effect on 5 bacteria	45
108. *Mentha viridis*	Mint	Listed but not tested	93
109. *Ocimum basilicum*	Sweet parsley	No effect on 5 bacteria; CE active against *Streptococcus* Group A, B and D, *Staphylococcus epidermis* and *S. aureus* at 130 μg/mL	45, 46
110. *Ocimum micranthum*	Wild parsley	CE killed 7% *T. confusum*, active against *B. microplus* (76AI); CE active against *Streptococcus* Group A, B and D, *Staphylococcus epidermis* and *S. aureus* at 130 μg/mL	14, 16, 46, 93
111. *Plectranthus amboinicus*	Soup mint	No effect on *B. microplus*	14
112. *Salvia serotina*	Chicken weed	CE had low antihelminthic potential – inactivated *S. stercoralis* larvae It_{50} in 20 hrs but still higher than thiabendazole and albendazole; very active against *B. microplus* (80AI)	14, 120, 121
113. *Satureja brownei*	Penny royal	Listed but not tested	93
114. *Satureja viminea*	Peppermint	Listed but not tested	93
115. *Cinnamomum zeylanium*	Cinnamon	Listed but not tested	93
116. *Persea americana*	Alligator pear	CE killed 27% *T. confusum*	16, 93
117. *Aloe vera*	Sinkle bible	Listed but not tested	93
118. *Spigelia anthelmia*	Worm grass	CE active against *B. microplus* (75AI)	14
119. ***Oryctanthus occidentalis***	Scorn-the-earth	Increases blood pressure, isolated oleaname triterpene; CE showed hypertensive activiy, decoction increased blood pressure at high doses in dogs.	91, 93
120. ***Phoradendron wattii***	No name given	Pharmacological testing; CE had pressor activity, isolated tyramine	71
121. *Cuphea parsonsia*	Strong back	Active against *S. aureus*++	45, 93
122. *Punica granatum*	Pomegranate	Listed but not tested	93
123. *Abutilon trisulcatum*	No name given	Isolated choline, this improved short-term memory in rats	147
124. *Hibiscus rosa-sinensis*	Double hibiscus, shoe black	No effect on 5 bacteria; CE killed 67% *T. confusum*, very active against *B. microplus* (93AI) – lethal dose was 0.22 µL/tick for TOAc fraction, bioactivity dropped on purification	14, 16, 45, 95, 96, 148, 149, 150
125. *Hibiscus sabdariffa*	Sorrel	White sorrel resistent to *M. incognito* and *R. reniformis*, white and red sorrel soil admendments suppressed nematode numbers	53
126. *Sida acuta*	Broom weed	CE killed 30% *T. confusum*, some activity against *B. microplus* (47AI)	14, 16, 45
127. *Sida rhombiflora*	?	No effect on 5 bacteria	45
128. *Thespesia populnea*	Seaside mahoe	CE killed 27% T. confusum	16
129. *Urena lobata* L.	Burmallow	Active against *B. microplus* (43AI)	14
130. *Azadirachta indica*	Neem	CE from seeds active against human pathogenic fungi: MIC (µg/ml) were *Fonsecaea pedrosoi* (4.0), *Petrellidium boydii* (5.0), *Trichophyton mantagraphytis* (8.0*), Microsporum gypeseum* (30.5), *Candida krusei* (48.7), *Rhizopus* sp. (50.8) – these results are similar to commercial antifungal agents; CE killed 53% *T. confusum*; active against *B. microplus* (68AI); CE toxic against *C. formicarius* (48hr Ld_{95} 0.53 µg/insect), CE active against *Hypothenemus hampei* in lab and field, killed *Plutella xylostella* and *Oomyzus sokolowakii*; 2% neem oil active against *Salmonella, Staphylococcus, Streptococcus, E. coli, Proteus, Pseudomonas*, and *Klebsiella*; low activity against *S. stercoralis*; decreased spontaneous motor activity in rats, antifertility effects, physiological actions in rats; some biopesticide formulations of neem were active against *C. formicarius* – inhibited feeding by 26-80% in lab; trees treated were avoided in greenhouse; formulations Ashima I&II and companion crops reduced damage from cabbage pests; formulations killed *Exophthalmus vittatus* by 12.5-44% and inhibited embryogenesis by 20-60%; formulations stopped post-harvest rot in yams, decreased bacterial load on floors of food processing plant; neem plants micropropagated; Neem weakly toxic to lab animals (LD_{50} 6760 and 8709 mg/kg for mice and rats)	14, 48, 84, 85, 86, 95, 96, 98, 99, 100, 103, 104, 151–163
131. *Cedrela odorata*	Cedar	CE killed 17% *T. confusum*, oil controlled *C. formicarius* (Ld_{50} 0.625 µg/insect) – efficacy decreased after 3 hrs; isolated photogedunin, tetracyclictriterpenoids, odoratol, odoratone, isodoralol, tetranortriterpenoids, methyl anglensate, gedunin, deacetyl-7-ketogedunin	16, 164 – 169
132. *Trichilia havanensis*	?	Triterpenoids isolated	170

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133. *Trichilia hirta* L.	Wild mahogany	CE killed 13% *T. confusum*	16, 171
134. *Mimosa pudica* L.	Shame mi lady	Inactivated *S. stercoralis* larvae in 1 hr (most active), CE killed 60% *T. confusum*, not very active against *B. microplus* (16AI)	14, 16, 98, 120, 121, 172, 173
135. *Artocarpus altilis*	Breadfruit	Inactivated *S. stercoralis* larvae in 9.5 and 49 hrs for two extracts for It_{95}; CE active against *T. confusum* (95% killed), *Hypothenemus hampei*, *Plutella xylostella*, *Oomyzus sokolowakii*, *B. microplus* (53AI), *Amblyomma cajennense* and *F. oxysporum*; CE active against *C. formicarius* (48hr Ld_{95} 0.86 µg/insect, Lc_{50} 3.9 mg/g), an isolated pentacyclic triterpene had insecticidal activty against *C. formicarius*, oil fraction contained compounds with insecticidal activity working synergistically – efficacy decreased with purification, dimethyl sulfoxide increased toxicity of triterpene to 1.9 mg/g; CE was 98% as active as Pyrenone (a commercial formulation of Pyrethrum) on adult *B. microplus*; isolated gamma-aminobutyric acid was a hypertensive agent	14, 44, 51, 71, 93, 98, 100, 103, 104, 120, 121, 160, 161, 173, 174, 175, 176, 177, 178, 179
136. *Artocarpus heterophyllus*	Jackfruit	CE killed 20% *T. confusum*	16
137. *Cecropia peltata*	Trumpet tree	CE killed 7% *T. confusum*, active against *B. microplus* (58AI), some antihelminthic potential against *S. stercoralis*	14, 16, 98, 172
138. *Ficus perforata* L.	Wild fig	CE killed 23% *T. confusum*	16
139. *Trophis racemosa*	Ramoon	Alkaloidal extract lowers intraocular pressure in dogs	180, 181
140. *Bontia daphnoides*	Kidney bush	CE killed 100% *T. confusum*, active against *B. microplus* (69AI), hexane fraction most active; isolated epingaione, a sesquiterpene furan, which was active against *C. formicarius, B. microplus, Candida albicans* and inhibited the elongation of radish roots	14, 16, 115, 182, 183, 184
141. *Myristica fragrans*	Nutmeg	No effect on *T. confusum*, oil controlled *C. formicarius* (Ld_{50} of 0.90 µg/insect), efficacy decreased after 3 hrs.	16, 169, 185
142. *Eucalyptus* spp.	Eucalyptus	Oil controlled *C. formicarius* (Ld_{50} of 0.388 µg/insect), efficiency declined after 3 hours	169
143. *Pimento dioica* L.	Pimento	Active against *B. microplus* (44AI); isolated essential oils and oleoresins; leaf extracts as lethal as oxymyl *in vitro* against *M.. incognita* and *R. reniformis* (had nematocidal potential) but appeared phytotoxic at rates used.	14, 93, 186, 187, 188
144. *Psidium guajava*	Guava	Relatively low activity against *B. microplus*	93, 100
145. *Sauvagesia brownei*	Iron shrub	Listed but not tested	93
146. *Jasminium fluminense*	Azores jasmine	No effect on 5 bacteria	45
147. *Cocos nucifera*	Coconut	Controls diabetes	3
148. *Bocconia frutescens*	John crow bush	No effect on 5 bacteria, active against *B. microplus* (46AI)	14, 16, 45
149. *Alysicarpus vaginalis*	Medina	Active against *S. aureus*++	45
150. *Cajanus cajan* L.	Gungo pea	CE killed 37% *T. confusum*	16
151. *Crotalaria juncea*	Sunhemp	No effect on 5 bacteria	45
152. *Crotalaria retusa*	Rattle weed	CE killed 30% *T. confusum*, active against *B. microplus* (51AI)	14, 16
153. *Desmodium canum*	Sweetheart	Listed but not tested	93
154. *Erythrina corallodendrum*	Spanish machete	Active against *B. microplus* (61AI)	14
155. *Gliricida sepium*	Quick stick	No effect on 5 bacteria, CE killed 60% *T. confusum*, active against *B. microplus* (64AI).	14, 16, 45
156. *Lonchocarpus latifolius*	Dogwood	No effect on 5 bacteria	45
157. *Piscidia piscipula* L.	Dogwood	CE killed 40% *T. confusum*	16
158. *Stylosanthes viscosa*	Poor man's friend	Listed but not tested	93
159. *Passiflora maliformis*	Sweet cup	No effect on 5 bacteria	45
160. *Petiveria alliacea*	Guinea hen weed	CE killed 37% *T. confusum*, active against *B. microplus* (66AI), an insecticidal and acaricidal polysulphide isolated; CE had immunodulatory activity; active against *F. oxysporum*	14, 16, 45, 93, 100, 115, 189, 190
161. *Rivina humilis*	Dog blood	No effect on 5 bacteria, some antihelminthic activity against *S. stercoralis* (Lt_{50} of 51.0)	45, 98, 99, 172
162. ***Peperomia clusifolia***	No name given	Isolated a prenylated benzopran derivative, clusifoliol; three isolated natural products exhibited anticancer properties; nigrinodine had antifungal activity	15, 77

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163. *Peperomia pellucida*	Rat ears	No effect on 5 bacteria; no activity against *B. microplus*	45, 93, 100
164. ***Peperomia proctorii***	No name given	Isolated 5 natural products- 2 chemicals showed mosquitocidal activity	15
165. *Piper aduncum*	No name given	6 natural isolated amides had no effect on *B. microplus*; 3 amides synthesized from 5,6Z and E butenolides have insecticidal properties	49, 69, 70, 73, 74
166. ***Piper amalgo* var *nigrinodum***	Pepper elder	No effect on 5 bacteria; isolated nigrodine, pipercide and guineesine which exhibited antifeedant, anticancer, antifungal properties; isolated 6 amides, 3 (including nigrinodine) killed 100% *Aedes aegyptii* at 100 ppm but inactive on *Mycobacterium tuberculosis* at 12.5 µg/ml; isolated gamma-aminobutyric acid and dopamine, the former being a hypertensive agent	14, 15, 16, 45, 52, 71, 93
167. *Piper auritum*	No name given	as for *P. fadyenii*	69, 70, 73, 74
168. *Piper betle*	No name given	Antimicrobial and anti-inflammatory affects; antifungal	78
169. ***Piper fadyenii***	No name given	3 natural isolated compounds had no effect on *B. microplus*; 3 amides synthesized from isolated 5,6Z and E butenolides have insecticidal properties – inhibited ovogenesis of *B. microplus* and was toxic to *T. confusum*	15, 49, 69, 70, 73, 74
170. *Piper hispidum*	No name given	as for *P. fadyenii*	74
171. ***Piper murrayanum***	No name given	6 natural products isolated; isolated prenylated hydroxybenzoic derivatives had antimicrobial activity	15, 72, 76
172. ***Piper verrucosum***	No name given	Isolated 2 natural compounds, one had contact insecticidal activity; isolated 3,4-epoxy-8,9-dihydropiplartine	15, 75
173. *Pothomorphe umbellata*	Cow foot	Listed but not tested	93
174. *Antigonon leptopus*	Coralita	CE killed 13% *T. confusum*, active against *Streptococcus* A++; isolated oleoresins and aquaresins from flowers – used as colourant and tested for mammalian toxicity	16, 45, 191
175. *Coccoloba krugii*	No name given	Active against *S. aureus*++ and *P. mirabilis*+	45
176. *Cycloptis semicordata*	Tall fern	CE killed 90% *T. confusum*, active against *B. microplus* (74AI)	14, 16, 95
177. *Lastrepsis effusa*	Fine fern	CE killed 23% *T. confusum*	16
178. *Portulaca oleracea*	Jump up & kiss me	Good antihelminthic potential (Lt_{50} of 31.2 hrs) against *S. stercoralis*	98, 99
179. *Gouania lupuloides*	Chew stick	Isolated triterpenoid saponins – bioactivity not determined	192
180. *Rhizophora mangle*	Red mangrove	Triterpenoids with insecticidal activity	45, 193
181. *Coffea liberica*	Liberian coffee	CE killed 13% *T. confusum*	16
182. *Borreria laevis*	Button weed	No effect on 5 bacteria, CE killed 13% T. confusum	45
183. *Morinda royoc*	Strong back	No effect on 5 bacteria	45
184. *Amyris plumieri*	Candle wood	Isolated 2,5-diaryl oxazole and chromene	194 – 197
185. *Citrus aurantifolia*	Lime	Active against *S. aureus*+	45, 93
186. *Citrus aurantium*	Seville orange	CE killed 13% *T. confusum*, active against *B. microplus* (50AI)	14, 16
187. *Citrus reticulata*	Tangerine	CE killed 17% *T. confusum*	16
188. *Fagara elephantiasis*	Yellow sanders	CE killed 37% *T. confusum*	16
189. *Fagara martinicensis*	Bitter bush	CE killed 37% *T. confusum*, low activity against *B. microplus* (22AI)	14
190. *Murraya koenigii*	Meethi neem	Dose dependant antifeedant	158, 159
191. *Murraya paniculata*	Sweet neem	Active against *S. aureus*+	16, 45
192. ***Spathelia glabrescens***	No name given	Isolated meso form of 2, 23-dihydroxy-2, 6, 10, 15, 19, 23-hexamethyl-3,7,11,15,19-penta (oxacyclopentyl) tetracosane, (glabresol) – bioactivity not tested	198
193. ***Spathelia sorbifolia***	Mountain pride	Chromenes and 2-quinolone isolated; spathelin isolated – bioactivity not tested	164, 199
194. *Blighia sapida*	Ackee	Hypoglycin A and B isolated and found to be poisonous; improved isolation procedure for hypoglycin A devised; No effect on 5 bacteria; CE killed 20% *T. confusum*; active against *B. microplus* (76AI); oil a potent insecticide – killed 100% *C, formicarius* (4 mg/insect) and 77% *B. microplus* (4 µg/tick), most potent fraction was 3 fatty acids including methyl-6-methyl-3-ox opentadecanoic acid; Ld_{50} values were *Leucoptera coffeela* (3.2%), *Hypothenemus hampei* (2.3%) and *Plutella xylostella* (4.7%), formulations were active for 14 days; CE produced neutropenia and thrombocytopenia in mice; plants produced callus and axillary bud growth in tissue culture.	14, 16, 45, 54, 56, 93, 100, 103, 104, 178, 200, 201, 202

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195. *Melicoccus bijugatus*	Guinep	No effect on 5 bacteria, CE killed 17% *T. confusum*, less active against *B. microplus* (16AI)	14, 16, 45
196. *Chrysophyllum cainito*	Star apple	CE killed 17% *T. confusum*	16
197. *Manilkara zapota*	Naseberry	Listed but not tested	93
198. *Capraria biflora*	Goat weed	Novel sesquiterpenoids and 4 caprariolides were isolated; Caprariolides A&B combined had a synergistic effect against *C. formicarius* (Ld_{50} 50.8 µg/insect) and was equitoxic to eugenol	203
199. ***Alvaradoa jamaicensis***	No name given	Isolated alvaradoins A, B, C &-Dantracenone C arabinosides; isolated anthraquinones chrysophanol and physcion were inactive against *Mycobacterium tuberculosis* at 12.5 µg/ml	47, 204
200. *Picrasma excelsa*	Bitter wood	Some antihelminthic activity against *S. stercoralis*	44, 98, 99, 172
201. *Simarouba glauca*	Bitter damson	No effect on 5 bacteria, very active against *B. microplus* (100AI, LD_{50} 0.63 µL/tick for CH_2Cl_2 fraction); reduced cabbage damage in field trials	14, 45, 95, 96, 151
202. *Smilax balbisiana*	Chainy root	Listed but not tested	93
203. *Smilax regelii*	Sarsaparilla	Listed but not tested	93
204. *Capsicum annum*	Hot pepper	CE killed 100% *T. confusum*, active against *B. microplus* (66AI)	14, 16, 102, 104
205. *Capsicum baccatum*	Bird pepper	Effective hypoglycaemic agent	3, 102
206. *Capsicum frutescens*	Bird pepper	CE killed 13% *T. confusum*; effective hypoglycaemic agent	3, 16, 102
207. *Datura stramonium*	Jimson weed	CE killed 13% *T. confusum*	16
208. *Nicotiana tabacum*	Tobacco	CE killed 100% *T. confusum*, very active against *B. microplus* (95AI)	14, 16
209. *Solanum torvum*	Susumber	No effect on 5 bacteria	45, 93
210. *Cola acuminata*	Bissy	Isolated triterpenestaraxeryl acetate, epi-friedeline, friedelin, teraxerylacetate and vanillic acid – bioactivity not tested	67, 154, 205
211. *Guazuma ulmifolia*	Bastard cedar	Listed but not tested	93
212. *Turnera ulmifolia*	Ramgoat dash-a-long	No effect on 5 bacteria, less active against *B. microplus* (26AI)	14, 16, 45, 93
213. *Eryngium foetidum*	Spirit weed	High antihelminthic potential against *S. stercoralis* Lt_{50} 18.9 hrs; an unsaturated, long chain fatty aldehyde isolated but not identified, the activity of this antihelminthic compound far exceeds that of thiabendazole and compares favourably with ivermectin; contains ingredients with anticonvalescent properties which may be useful in treatment of epilepsy; hexane extract rich in terpenes (alphacholesterol, brassicasterol, delta 5-avenasterol, campestrol, stigmasterol, deorosterol), leaves effective for anti-inflammatory purposes	26, 44, 98, 99, 206, 207
214. *Foeniculum vulagare*	Fennel	Listed but not tested	93
215. *Pilea microphylla* var *microphylla*	Baby puzzle	Active against *S. aureus*+	45
216. *Pilea microphylla* var *trianthemoide*	Artillery plant	No effect on 5 bacteria	45
217. *Clerodendrum philippinum*	Lady nugent rose	No effect on 5 bacteria	45
218. *Lantana camara*	White sage	Active against *S. aureus*++; CE active against *Streptococcus* Group A, B and D, *Staphylococcus epidermis* and *S. aureus* at 130 µg/mL	45, 46
219. *Lantana involucrata*	Wild mint	Low acaricidal activity against *B. microplus* (21AI)	14, 100
220. *Lantana trifolia*	Wild sage	Listed but not tested	93
221. *Lantana urticifolia*	Black sage	Terpenes isolated; has acaricidal activity against *B. microplus*	93, 100, 131
222. *Lippia alba*	Colic mint	Active against *B. microplus* (62AI); CE active against S*treptococcus* Group A, B and D, *Staphylococcus epidermis* and *S. aureus* at 130 µg/mL	14, 46, 93
223. *Petrea volubilis*	Purple wreath	No effect on 5 bacteria	45
224. *Priva lappulacea*	Clammy bur	No effect on 5 bacteria	45
225. *Stachytarpheta jamaicensis*	Vervine	No effect on 5 bacteria, low antihelminthic activity against *S. stercoralis* larvae (inactivated in 81.5 hrs), active against *B. microplus* (79AI); isolated phytosterol and spinasterol; isolated dopamine – had pressor activity	14, 44, 45, 67, 71, 93, 98, 120, 121
226. *Zingiber officinale*	Ginger	Active against *B. microplus* (45AI)	14

PRN = plant reference number, CE = crude extract, AI = acaricidal index, MIC = minimum inhibitory concentration

ACKNOWLEDGEMENTS

Part funding was provided by the Organization of American States, Jamaica, for compilation of this information. The herbarium searches were funded by the Environmental Foundation of Jamaica. Thanks to all the researchers who made their papers and information available to us, and for all those who helped review this article especially Dr Lawrence Williams.

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