



RESEARCH ARTICLE

USE OF SPECIES IN HOMEGARDENS OF MATO GROSSO: BAIRRO SÃO BENEDITO

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ABSTRACT

Homegardens are familiar spaces for the use and management of different plant species. The objective of the present study was to survey the species in homegardens of the São Benedito in Cuiabá, Mato Grosso. The research was conducted through semi-structured interviews, associated with "snowball" and tour-guided techniques. A total of 101 species belonging to 45 genera and 53 families were recorded, including the families Asteraceae (11 spp.), Lamiaceae (9 spp.) and Araceae (6 spp.). Food, ornamental and medicinal species were observed. Most species were medicinal (45), belonging to 27 families and with a larger number of species belonging to the families Asteraceae (8 spp.) and Lamiaceae (8 spp.). The preparation of tea predominates and the diseases treated are mainly those related to the digestive system and inflammations.

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INTRODUCTION

Homegardens are forms of land use in which several species of trees are grown, along with annual crops and the raising of small animals around the house (Kumar and Nair, 2006). These spaces are maintained by the family and the products are to meet the nutritional needs of the family as well as the energy and health.

Many authors emphasize the importance of homegardens as a source of supplementation of the family diet, its main function, as well as medicinal, aesthetic and cultural. The importance of agroforestry homegardens is related to food security and increased family income, introduction and domestication of species (Gao *et al.*, 2012), land use efficiency, species conservation and sustainability (Florentino *et al.*, 2007). Homegardens are important in the conservation of medicinal plants by rural and urban communities (Perna and Lamano-Ferreira, 2014).

In the State of Mato Grosso in Brazil, some studies have already been carried out on the topic of homegardens (Amaral and Guarim Neto, 2008; Guarim Neto and Carniello, 2008; Carniello *et al.*, 2010). Unfortunately, these homegardens are disappearing from the urban landscape, with a minimum of

green space available to ease the typical heat of the region, as well as the space of coexistence with family and friends.

Homegardens are one of the oldest forms of land management, a fact that, in itself, indicates its sustainability. Although this multi-species production system has provided and sustained millions of people economically, little scientific attention has been devoted to the subject (Amaral and Guarim Neto, 2008). The objective of the present study was to perform a survey of the plant species used in the urban homegardens of Mato Grosso State in Brazil.

METHODOLOGY

The study was developed in Bairro São Benedito located in the central portion of Cuiabá, and had its origin at the beginning of the formation of the city.

Fifteen informants from the snowball technique (Bailey, 2008) conducted structured interviews and guided tours with the main stakeholders involved in the management and maintenance of homegardens (Albuquerque *et al.*, 2014). The average time of each interview was 60 minutes. In each homegarden were collected of the plant species with the collection of samples for exsiccates and identification in the Herbarium of the Federal University of Mato Grosso.

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The species were classified according to their use according to the definitions of the interviewees themselves, avoiding the use of pre-defined categories. As they were collected, the information was compiled in the form of a database, using text matrices, according to the methodology proposed by (Amorozo and Viertler, 2010).

RESULTS AND DISCUSSION

There were 53 families, 44 genera and 101 species. These values are close to those found in other studies such as Antoinette and Winklerprins (2002) in Santarém, Pará, Florentino (2007) in Caruarú, Pernambuco, Amaral and Guarim Neto (2008) in Mirassol do Oeste, Mato Grosso.

Table 1. Characteristics of the species in homegardens of Bairro São Benedito in Cuiabá, Mato Grosso State, Brazil, 2014

FAMILY/species	Vernacular name	Use	Growing habit
ADOXACEAE			
<i>Sambucus nigra</i> L.	sabugueiro	medicinal	bush
ALLIACEAE			
<i>Allium schoenoprasum</i> L.	cebolinha francesa	medicinal	herb
ANACARDIACEAE			
<i>Anacardium occidentale</i> L.	cajuero	food	tree
<i>Mangifera indica</i> L.	mangueira	food	tree
ANONACEAE			
<i>Annona muricata</i> L.	graviola	food	tree
<i>Annona squamosa</i> L.	ata	food	tree
APIACEAE			
<i>Eryngium foetidum</i> L.	coentro do pará	medicinal	herb
<i>Petroselinum crispum</i> (Mill.) Nym.	salsa	food	herb
ARACEAE			
<i>Anthurium andraeanum</i> Linden ex André	antúrio	ornamental	herb
<i>Dieffenbachia picta</i> Shott.	comigo-ninguem-pode	mystic	herb
<i>Monstera deliciosa</i> Liebm.	costela de adão	ornamental	herb
<i>Philodendron bipinnatifidum</i> Schott.	imbé	ornamental	herb
<i>Pimpinella anisum</i> L.	erva doce	medicinal	herb
<i>Scindapsus aureus</i> L.	jiboia	ornamental	herb
ARECACEAE			
<i>Cocos nucifera</i> L.	coco	food	tree
ASTERACEAE			
<i>Alternanthera bettsichiana</i> (Regel) Vors.	dipirona	medicinal	herb
<i>Artemisia absinthium</i> L.	astemisia	medicinal	herb
<i>Baccharis genistelloides</i> Person	carqueja	medicinal	herb
<i>Bellis perennis</i> L.	sempre viva	ornamental	herb
<i>Cichorium endivia</i> L.	chicória	food	herb
<i>Lactuca sativa</i> L.	alface	food	herb
<i>Matricaria camomila</i> L.	camomila	medicinal	herb
<i>Bidens pilosa</i> L.	picão	medicinal	herb
<i>Ageratum conyzoides</i> L.	mentrasto	medicinal	herb
<i>Lantana cambara</i> L.	cambara	medicinal	herb
<i>Vernonia grandiflora</i> Less	assapeixe	medicinal	herb
BALSAMINACEAE			
<i>Impatiens balsamina</i> L.	beijo de frade	ornamental	herb
BEGONIACEAE			
<i>Begonia cucullata</i> Willd.	begonia	ornamental	herb
BORAGINACEAE			
<i>Symphytum officinale</i> L.	confrei	medicinal	herb
BRASSICACEAE			
<i>Brassica oleracea</i> D.C.	couve	food	herb
CACTACEAE			
<i>Cereus jamacaru</i> DC	cacto	medicinal	bush

CAESALPINIACEAE				
<i>Cassia occidentale</i> L.	cassia	medicinal	tree	
<i>Bauhinia forficata</i> Link.	pata de vaca	medicinal	tree	
<i>Tamarindus indica</i> L.	tamarindo	medicinal	tree	
CARICACEAE				
<i>Carica papaya</i> L.	mamão	food	tree	
CELASTRACEAE				
<i>Maytenus ilicifolia</i> Mart. ex Reissek	cancerosa	medicinal	bush	
CHENOPODIACEAE				
<i>Chenopodium ambrosioides</i> L.	erva de santa maria	medicinal	herb	
COMBRETACEAE				
<i>Terminalia catappa</i> L.	castanheira	ornamental	tree	
CRASSULACEAE				
<i>Bryophyllum calycinum</i> Salisb.	fortuna	medicinal	herb	
CUCURBITACEAE				
<i>Cucumis anguria</i> L.	maxixe	food	herb	
<i>Cucurbita pepa</i> L.	abobora	food	herb	
CYCADACEAE				
<i>Cycas circenalis</i> L.	cica	ornamental	bush	
DAVALLIACEAE				
<i>Davallia fejeensis</i> Hook.	renda portuguesa	ornamental	herb	
ERICACEAE				
<i>Rhododendron indicum</i> (L.) Sweet	azaleia	ornamental	bush	
EUPHORBIACEAE				
<i>Euphorbia milli</i> (L.) Des Moulins	coroa de cristo	ornamental	herb	
<i>Jatropha curcas</i> L.	pinhão manso	ornamental	bush	
<i>Manihot esculenta</i> Cranz.	mandioca	food	bush	
<i>Phyllanthus niruri</i> L.	quebra pedra	medicinal	herb	
<i>Euphorbia hirta</i> L.	erva de santa luzia	medicinal	herb	
FABACEAE				
<i>Cajanus cajan</i> (L.) Millsp.)	guandu	medicinal	bush	
<i>Delonix regia</i> (Bojer ex Hook.) Raf.	flamboyant	ornamental	herb	
HYDRANGEACEAE				
<i>Hydrangea macrophylla</i> Ser.	hortencia	ornamental	herb	
LABIATEAE				
<i>Plectranthus barbatus</i> Benth.	boldo	medicinal	herb	
<i>Plectranthus amboinicus</i>	hortelã gorda	medicinal	herb	
<i>Ocimum micranthum</i> Willd.	manjeriçao	medicinal	herb	
<i>Ruta graveolens</i> L.	arruda	medicinal	herb	
<i>Mentha pulegium</i> L.	poejo	medicinal	herb	
<i>Mentha piperita</i> L.	menta	medicinal	herb	
<i>Ocimum basilicum</i> L.	alfavaca	medicinal	herb	
<i>Leonurus sibiricus</i> L.	macaé	medicinal	herb	
LAURACEAE				
<i>Persea americana</i> Mill.	abacateiro	food	tree	
LILIACEAE				
<i>Aloe barbadensis</i> Lam.	babosa	medicinal	herb	
<i>Sansevieria trifasciata</i> Hort.	espada de são jorge	mystic	herb	
MALVACEAE				
<i>Gossypium barbadense</i> L.	algodão	medicinal	bush	
<i>Hibiscus rosa-sinensis</i> Mill.	hibisco	medicinal	herb	
<i>Theobroma cacao</i> L.	cacau	food	tree	
<i>Malva sylvestris</i> L.	malva branca	medicinal	herb	
MARANTACEAE				
<i>Maranta arundinacea</i> L.	araruta	food	herb	
MORACEAE				
<i>Artocarpus integrifolia</i> L.	jaca	food	tree	
<i>Morus nigra</i> L.	amora preta	food	herb	
MUSACEAE				
<i>Musa paradisiaca</i> Kuntze	banana	food	tree	
MYRTACEAE				
<i>Eugenia cumini</i> (L.) Druce.	jambolão	food	tree	
<i>Eugenia uniflora</i> L.	pitanga	food	tree	
<i>Malpighia glabra</i> L.	acerola	food	tree	
<i>Psidium guajava</i> L.	goiabeira	food	tree	
NYCTAGINACEAE				
<i>Mirabilis jalapa</i> L.	maravilha	medicinal	herb	

OXALIDACEAE			
<i>Averroa carambola</i> L.	carambola	medicinal	tree
<i>Oxalis tetraphylla</i> L.	trevo de quatro folhas	ornamental	herb
PALMAE			
<i>Acrocomia aculeata</i> (Jacq) Lood. ex Mart.	bocaiuva	medicinal	tree
PASSIFLORACEAE			
<i>Passiflora edulis</i> Sims.	maracuja	food	bush
PHYTOLACACEAE			
<i>Petiveria alliacea</i> L.	pipi	medicinal	herb
PIPERACEAE			
<i>Piperomia rotundifolia</i> (L.) Kunth	piperomia	ornamental	herb
PIPERACEAE			
<i>Piper nigrum</i> L.	pimenta	food	herb
<i>Piper umbelatum</i> L.	caapeba	medicinal	herb
PLANTAGINACEAE			
<i>Plantago major</i> L.	tanchagem	medicinal	herb
POACEAE			
<i>Paspalum notatum</i> Flugge	grama batatais	ornamental	herb
<i>Sacharum officinarum</i> L.	cana de açucar	food	bush
POLYGONACEAE			
<i>Pilea microphylla</i> L.	penca amor	ornamental	herb
<i>Antigonon leptopus</i> Hook. & Arn.	agarradiho	ornamental	herb
POLYPODIACEAE			
<i>Polypodium lepidopteris</i> (Langds. & Fisch.) Kunze	samambaia	medicinal	herb
PTERIDACEAE			
<i>Adiantum capillus-veneris</i> L.	avenca	ornamental	herb
RUBIACEAE			
<i>Ixora chinensis</i> Lam.	ixora	ornamental	herb
RUTACEAE			
<i>Citrus aurantium</i> L.	laranja azeda	food	tree
<i>Citrus lemon</i> (L.) Burm.	limão	food	tree
<i>Pilocarpus microphyllus</i> Stapf ex Wardleworth	jaborandi	food	tree
SOLANACEAE			
<i>Brunfelsia uniflora</i> (Pohl) D. Don.	manacá	ornamental	bush
<i>Capsicum annum</i> L.	pimentão	ornamental	herb
VERBENACEAE			
<i>Lippia alba</i> (Mill.) N. E. Brown	erva cidreira	medicinal	bush
ZINGIBERACEAE			
<i>Zingiber officinale</i> Rosc.	gengibre	medicinal	herb
<i>Costus spiralis</i> (Jacq.) Roscoe	caninha da índia	medicinal	bush
<i>Alpinia zerumbet</i> (Pers.) B.L. Burt. & R.M.Sm	colônia	medicinal	bush

The family with the highest number of species was Asteraceae (11 spp.) followed by Lamiaceae (9 spp.) and Araceae (6 spp.), which agrees with most studies regarding Asteraceae and Lamiaceae, as in the states of Espírito Santo (Albertasse *et al.*, 2010), Goiás (Silva and Proença, 2008), Minas Gerais (Calábria *et al.*, 2008), Paraná (Negrelle *et al.*, 2007), Rio Grande do Sul (Vendruscolo and Mentz, 2006), Rondônia (Santos *et al.*, 2008), Santa Catarina (Giraldi and Hanazaki, 2010), São Paulo (Pilla *et al.*, 2006)

It is worth mentioning that most species of these families present secondary compounds with antimicrobial and anti-inflammatory action, among other functions (Almassy *et al.*, 2005), with effects proven by scientific studies (Lorenzi and Matos, 2008).

The prevalence in herbaceous habit can also be observed in several studies (Silva-Almeida and Amorozo, 1998; Pilla *et al.*, 2006; Albertasse *et al.*, 2010). This prevalence can be associated with the easy cultivation of herbs in backyards, facilitating the obtaining of these vegetal resources by the residents (Pilla *et al.*, 2006).

45 species of medicinal use belonging to 27 families were observed in the homegardens. The families Asteraceae (8 spp.) and Lamiaceae (8 spp.) had the largest number of species (Table 2). The preparation of tea predominates and the diseases treated are mainly those related to the digestive system and inflammations.

Table 2. Medicinal use of species in homegardens of Bairro São Benedito in Cuiabá, Mato Grosso State, Brazil. 2014.

Family/species	Vernacular name	Uses
ADOXACEAE		
<i>Sambucus nigra</i> L.	sabugueiro	inflorescence tea for children with measles, chicken pox drink
ALLIACEAE		
<i>Allium shoenooprasum</i> L.	cebolinha francesa	leaves tea for digestion
APIACEAE		
<i>Eryngium foetidum</i> L.	coentro do pará	leaves tea for digestion for dengue
ARACEAE		
<i>Pimpinella anisum</i> L.	erva doce	fruit and seed tea for gas and stomach pain
ASTERACEAE		
<i>Alternanthera bettsichiana</i> (Regel) Vors.	dipirona	leaf tea for pain, fever and infections
<i>Artemisia absinthium</i> L.	artemisia	leaves tea for menstrual cramps
<i>Baccharis genistelloides</i> Person	carqueja	leaves tea for the kidneys and liver
<i>Matricaria camomila</i> L.	camomila	leaves tea as soothing and for the stomach
<i>Bidens pilosa</i> L.	picão	leaf tea for jaundice and hepatitis
<i>Ageratum conyzoides</i> L.	mentrasto	tea for rheumatism and arthritis
<i>Lantana cambara</i> L.	cambara	leaf tea for flu
<i>Vernonia grandiflora</i> Less	assapeixe	leaf tea as diuretic
BORAGINACEAE		
<i>Symphytum officinale</i> L.	confrei	knead leaves to heal wounds
CACTACEAE		
<i>Cereus jamacaru</i> DC	cacto	root tea as a diuretic and for the kidneys
CAESALPINIACEAE		
<i>Cassia occidentale</i> L.	cassia	leaf tea as a laxative
CAESALPINIACEAE		
<i>Tamarindus indica</i> L.	tamarindo	tea from the fruit to loosen the intestine, is diuretic
<i>Bauhinia forficata</i> Link.	pata de vaca	tea leaves to lower cholesterol
CELASTRACEAE		
<i>Maytenus ilicifolia</i> Mart. ex Reissek	cancerosa	tea leaves for ulcer in the stomach
CHENOPODIACEAE		
<i>Chenopodium ambrosioides</i> L.	erva de santa maria	leaf juice with milk for verminoses
CRASSULACEAE		
<i>Bryophyllum calycinum</i> Salisb.	fortuna	leaves to relieve burns and extract boils
EUPHORBACEAE		
<i>Phyllanthus niruri</i>	quebra pedra	leaf tea for kidney stone
<i>Euphorbia hirta</i>	erva de santa luzia	leaves to wash the eyes
FABACEAE		
<i>Cajanus cajan</i> (L.) Millsp.)	guandu	tea as abortive
LABIATEAE		
<i>Plectranthus barbatus</i> Benth.	boldo	tea for indigestion, pain in the stomach and liver
<i>Plectranthus amboinicus</i>	hortelã gorda	tea and licker for flu and sore throat
<i>Ocimum micranthum</i> Willd.	manjeriço	tea for indigestion
<i>Ruta graveolens</i> L.	arruda	tea to wash the eyes
<i>Mentha pulegium</i> L.	poejo	flu syrup
<i>Mentha piperita</i> L.	menta	flu syrup
<i>Ocimum basilicum</i> L.	alfavaca	flu tea

LILIACEAE		
<i>Aloe barbadensis</i> Lam.	babosa	leaves gel for burns
MALVACEAE		
<i>Gossypium barbadense</i> L.	algodão	leaves tea used in the bath after childbirth
<i>Hibiscus rosa-sinensis</i> Mill.	hibisco	tea of the flowers to lower the pressure and to lose weight
<i>Malva sylvestris</i> L.	malva branca	leaf tea as anti-inflammatory
NYCTAGINACEAE		
<i>Mirabilis jalapa</i> L.	maravilha	tea leaves as a soothing
OXALIDACEAE		
<i>Averroa carambola</i> L.	carambola	tea leaves to lower the pressure
PALMAE		
<i>Acrocomia aculeata</i> (Jacq.) Lood. ex Mart.	bocaiuva	fruit tea for infections
PHYTOLACACEAE		
<i>Petiveria alliacea</i> L.	pipi	root tea as abortive
PIPERACEAE		
<i>Piper umbellatum</i> L.	caapeba	leaves tea as anti-inflammatory
PLANTAGINACEAE		
<i>Plantago major</i> L.	tanchagem	leaves tea for pain and inflammation of the throat
POLYPODIACEAE		
<i>Polypodium lepidopteris</i> (Langds. & Fisch.) Kunze	samambaia	tea leaves for inflammation
RUTACEAE		
<i>Pilocarpus microphyllus</i> Stapf ex Wardleworth	jaborandi	leaf tea for flu
VERBENACEAE		
<i>Lippia alba</i> (Mill.) N. E. Brown	erva cidreira	chá calmante para dormir bem
ZINGIBERACEAE		
<i>Zingiber officinale</i> Rosc.	gengibre	rhizomes tea as digestive
<i>Costus spiralis</i> (Jacq.) Roscoe	caninha da índia colonia	tea for kidney pain
<i>Alpinia zerumbet</i> (Pers.) B.L. Burt. & R.M.Sm		tea flowers for high blood pressure

CONCLUSIONS

The use of the species is food, ornamental and medicinal. Most species are medicinal and with a greater number of species belonging to the Asteraceae and Lamiaceae families. The preparation of tea predominates and the diseases treated are mainly those related to the digestive system and inflammations.

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