

# Species composition and plant use in old urban homegardens in Rio Claro, Southeast of Brazil

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**RESUMO** – (Composição de espécies e uso de plantas em quintais urbanos antigos de Rio Claro, Sudeste do Brasil). Com base no enfoque etnobotânico, este estudo procurou caracterizar os quintais urbanos antigos de Rio Claro, realizando um levantamento da riqueza de espécies vegetais e seus usos, em 17 domicílios selecionados aleatoriamente. Os dados foram coletados por meio de entrevistas semi-estruturadas, estruturadas e coleta de plantas. Encontrou-se um total de 410 espécies, distribuídas em 97 famílias botânicas, constatando-se uma alta diversidade de espécies lenhosas, tanto arbóreas como arbustivas ( $H' = 1,66$  e  $J = 0,86$ ). Foram levantadas 257 espécies de uso ornamental, 98 alimentares e 93 medicinais. Em vista do grande número de espécies encontradas para as principais categorias de uso, pode-se concluir que os quintais desempenham importantes funções no âmbito local das famílias entrevistadas, contribuindo para a produção de alimentos e de medicamentos para consumo próprio, e também desempenhando uma importante função estética graças à variedade de suas plantas ornamentais. A riqueza desses quintais pode estar relacionada com a origem rural e cultural dos proprietários, que ainda mantêm uma tradição de cultivo. Verificou-se que os produtos advindos dos quintais contribuíram para a variação da dieta alimentar dos informantes, representando um potencial promissor para a melhoria da alimentação da população.

**Palavras-chave:** quintais, etnobotânica, diversidade

**ABSTRACT** – (Species composition and plant use in old urban homegardens in Rio Claro, Southeast of Brazil). This study, based on the ethnobotanical approach, looked for to characterize the ancient urban home gardens in Rio Claro, municipality located in the Southeast of Brazil, carrying out a survey of the wealth of vegetal species and their uses, in 17 households selected randomly. The data had been collected by means of semistructured and structured interviews and by the gathering of plants. It was verified a total of 410 species, distributed in 97 botanical families, evidencing a high diversity of ligneous species, such as trees and shrubs ( $H' = 1,66$  and  $J = 0,86$ ). There were surveyed 257 species for ornamental use, as well as 98 for alimentary and 93 for medicinal uses. Considering the great number of species found for the main categories of use, it can be inferred that the home gardens play important functions for the interviewed families, contributing for the food and medicine production destined for the consumption by the families themselves, and also playing an important esthetic function thanks to the variety of their ornamental plants. The wealth of these home gardens may be related to the rural origin and to the culture of the owners, who still keep a cultivation tradition. It was found that the products obtained from the home gardens contributed for the diet's variety of the informants, representing a promising potential for the improvement of the population alimentation.

Key words: home garden, ethnobotany, diversity

## Introduction

Research involving biological diversity in urban areas has intensified in recent years and turned its attention mainly to locales that maintain a richness of vegetation and animals, such as parks, arboretums, flower gardens, and homegardens. The species diversity sheltered by these locales provide resources, and alternative resources, for food, decoration, construction, and medicinal uses (Brito & Coelho 2000; Smedo & Barbosa 2007; Amaral & Guarim-Neto 2008), as well as contributing to flood control and protecting against soil erosion (Soemarwoto 1987; Brito & Coelho 2000).

With the development of the environmental sciences, planners began to emphasize the importance of interrelations between human beings and nature in the urban environment, and consequently, the importance of homegardens, or yards, as these, while they are becoming more and more rare in most large metropolises, continue to be, for a growing number of urban dwellers, the most immediate link with nature (Madaleno 2001a; 2001b; Amaral & Guarim-Neto 2008). As a result, ethnobotany, in particular, has dedicated increasing attention to the theme of conservation of homegarden biodiversity.

The diversity found in homegardens is a source of genetic variability (Soemarwoto *et al.* 1985; Valle 2000; Smedo & Barbosa 2007; Amaral & Guarim-Neto 2008) that has

been accumulated by the local populations, constituting a valuable patrimony for food security and even a source of genetic material for the improvement of species for commercial purposes. This genetic stock is therefore very relevant for agricultural sustainability over the long term (Torquebiau 1992). In many situations, homegardens shelter innumerable old species and varieties of domestic plants that are no longer cultivated by modern mechanized agriculture and, therefore, are not available commercially. The choice of species depends upon the personal preference and alimentary, aesthetic, and medicinal necessities, and it is also related to socioeconomic and cultural factors, as well as to the age group of familiar cycle. (Lamont *et al.* 1999; Brito & Coelho 2000; Santhakumar 2000; Blanckaert *et al.* 2004).

In fact, the importance of homegardens as foci of biodiversity conservation will have to intensify in the years ahead. Although rarely formally assessed, urban and peri-urban biodiversity will come to play an increasingly significant role in human activities, since it is estimated that by 2030, about 61% of the world population will live in cities (United Nations 2004). In Brazil, according to the population survey Censo of 2000 (IBGE 2002), 81% of the population is already urban. However, once this figure includes habitants of municipalities with predominantly rural characteristics, such as little urbanized area and economy linked to the direct

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use of the natural resources, some authors believe that this IBGE figure is overestimated, and that 60% Brazilians live, effectively, in the urban web (Veiga 2003).

The municipality of Rio Claro is located at an advanced agroindustrial region, in which predominate the great monocultures, and its population lives, almost in its totality, in the urban area. Within this context, homegardens may be on their way to constituting the last holdout of the rich agrobiodiversity created and maintained by local and neighboring farmers.

The objective of this paper was to realize an ethnobotanic survey in old urban homegardens in Rio Claro with respect to the following main aspects: a) the composition of cultivated plants and their respective uses; b) the diversity of tree and shrub species present in each homegarden; c) the floristic similarity among homegarden; and d) the correlation between species richness and each one of the following variables: homegardens age, size of the homegarden, and monthly family income.

**Material and method**

**Study area**

The municipality of Rio Claro is located in central São Paulo (22°24' S and 47°31' W) 180 km from the state capital, São Paulo (Fig. 1). The climate in the region is tropical, with two well-defined seasons (“Cwa”<sup>4</sup>, according to the Köppen classification). The vegetative cover is formed of tropical broadleaf forest and gallery forest, but in restricted areas. The savannah is practically extinct (Matias 1989). Soil use in the municipality is dedicated mainly to sugar cane plantations, orange groves, and pastureland, with a small amount used for the cultivation of other crops, such as corn, rice, and cotton.

The population of Rio Claro is 168,087, 96% of which is concentrated in the urban area (IBGE 2002). The economically active inhabitants are employed mainly in industry, which is concentrated in the northern region of the city, and commercial activities, distributed throughout the city, followed by liberal professionals and self-employed. The elderly population resides mainly in the older neighborhoods of the city where the longer-term residents are also concentrated.

**Method**

Households with older homegardens located in the urban region of Rio Claro were sampled. These older homegardens correspond to the green areas of households within the city limits and are characterized by the presence of tree and shrub species that have been maintained for 25 years or longer, and whose residents are more than 50 years old.

Based on the map of the evolution of urban space in Rio Claro (Troppmair 1992) (Fig.2), neighborhoods that had been formed until the year 1945 were selected, totaling seven neighborhoods. It was assumed that older homes with preserved homegardens would be found in these neighborhoods. Of the 380 squares on the map that satisfied these requisites, corresponding to 380 city blocks, 60 were randomly selected using a standard table of random numbers. By means of field recognition, it was verified which were the dwellings that had old homegardens. Of those squares that were randomly selected, only 22 satisfied the above criteria. During the first two months of field work, five of the households covered their homegardens with cement or cut all the trees. Thus, the final sample was reduced to a total of 17 households.

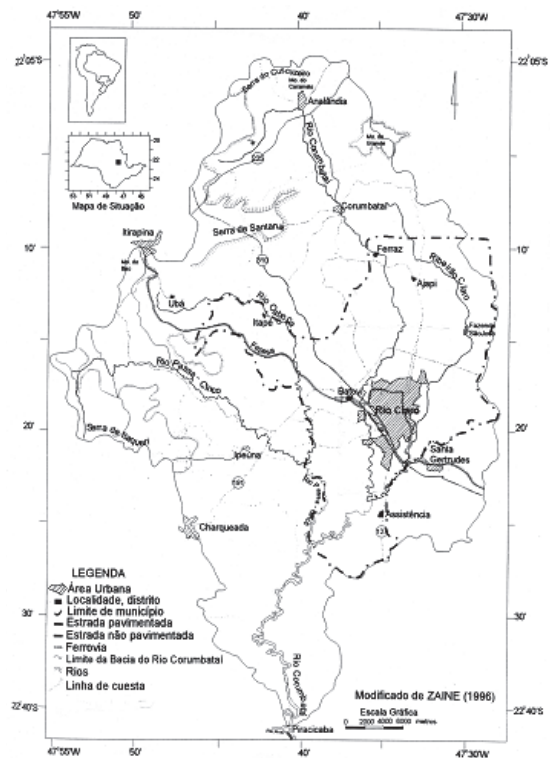


Figure 1. Map showing the location of the municipality of Rio Claro.

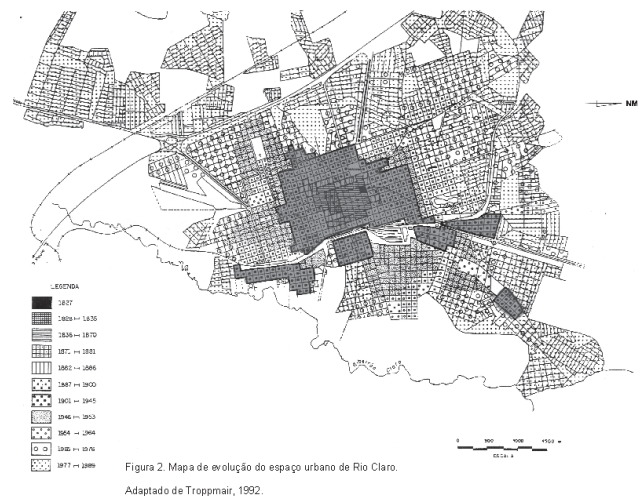


Figure 2. Map of the evolution of urban space in Rio Claro. The shaded area corresponds to the neighborhoods formed until 1945 (Troppmair, 1992).

Five men and 12 women were interviewed. All of them were descendent of immigrants from Western Europe that came to Brazil to work in coffee farms around 1840. All the informants were born in the State of São Paulo, Brazil. The most part of them (77,3%) comes from the region of Rio Claro or from neighbour areas. The interviewees were grouped according to two origins. One of the groups included dwellers from rural origin, and their parents, or themselves, the interviewees, were workers from coffee farms. The other group includes the interviewees which were born in urban areas, but that also had a rural heritage conveyed by their parents and grandparents.

<sup>4</sup> In this climate classification system, the letter “C” signifies the mean temperature of the coldest month varies from 3°C to 18°C; w, that winter is the dry

The majority of the interviewees was constituted of people retired (59%) from service and commerce sectors, and the remaining people were housewives (41%). The monthly familiar income of 29% of the interviewees was lesser than 2.5 minimum wages (ISM  $\cong$  US\$ 191,00), and the income of 52% of the interviewees corresponds to a salary range from 2.5 to 5 minimum wages. Only 18% of the interviewees had an income between 5 and 7 minimum wages. Similar data are found in the Southeastern Region of Brazil, in which about 60% of the families receive an income in the range from 2 to 5 minimum wages per month (IBGE 2002).

Among the interviewees, the schooling was low: 9% were analphabets and 64% had not finished basic education. (between 1 and 8 years of schooling).

The studied population possessed their own houses, with average time of occupation of 47.4 years (in a range that extends from 26 to 70 years). With regards to urbanization, all the houses of the sample had access to electric energy, basic sanitation, and garbage collection.

The data collection period extended over thirteen months, from October, 2001 to November, 2002. An inventory of the plants present in the homegardens was carried out via semi-structured interviews (Bernard 1988), to collect information on the vernacular names of the plants and their uses and functions, which were categorized as follows: alimentary, medicinal, ornamental, and other uses. The vegetal species samples were recorded, collected, and included in the *Herbarium Rioclaresense* (HRCB). Identification was done by comparison, using basic references, as well as visits to herbariums. The following botanists and specialists were also consulted: Antônio Furlan, Marco Antonio de Assis, Vinícius A. Dittrich and Cristiano Marcelo Viana Cardoso, of the Departamento de Botânica, Instituto de Biociências da UNESP, Rio Claro/SP; José Orlando de Figueiredo and Roseli B. Torres, both of the Instituto Agronômico of Campinas/SP.

For the tree and shrub species diversity analysis, all the individuals present were counted and the Shannon-Wiener Index ( $H'$  - base 10) was applied, which combines the components of richness (number of species) and abundance, and Pielou Index ( $J'$ ) of equitability (relation of abundance among species), according to Krebs (1989). The diversity analyses corroborate the importance of homegardens in the maintenance of diversity and conservation of cultivated plant varieties, stimulating the realization of comparative studies of the number, composition, and organizational pattern of plant species in different regions.

To evaluate floristic similarity, with respect to the absence/presence of plant species in the homegardens studied, the Sørensen coefficient of similarity (Krebs 1989) was used, which makes it possible to verify the extent to which the homegardens are floristically similar by comparing the number of species they have in common. For the analysis of similarity, the homegardens were grouped into three categories: large ( $>1,000$  m<sup>2</sup>), medium (600 m<sup>2</sup> to 999 m<sup>2</sup>), and small ( $<600$  m<sup>2</sup>).

For the correlation between species richness and the following variables: homegarden age, size of the homegarden, and monthly family income, the Kendall-Tau correlation test was applied (Siegel 1975).

## Results and discussion

### Species structure and composition

The homegardens studied were found to be complex units of production, with great plant richness composed of a mixture of native and exotic species. In the 17 homegardens studied, 410 species were found, distributed among 97 botanical families (Appendix 1), with the following four being the most represented in terms of number of species: Lamiaceae, Asteraceae, Araceae, and Liliaceae (Fig. 3).

The species were grouped in four categories of use, with the most frequent being predominantly *ornamental* (approximately 63% of the species), followed by *alimentary* (24%), and *medicinal* (23%). The condimental use is included in the alimentary category. The species categorized as *other uses* corresponded to 4.0%. For 12% of the species, two or more uses were indicated.

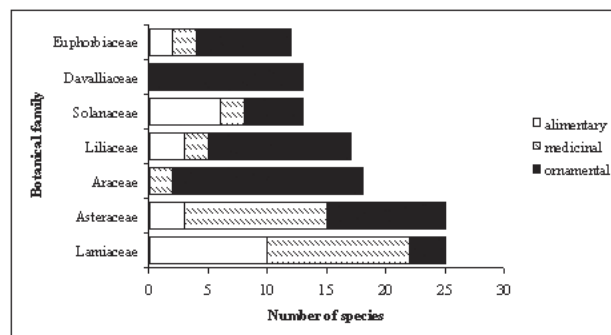


Figure 3. Most-represented botanical families in number of species per category of use.

The small number of studies on vegetation richness in urban homegardens in southeastern Brazil, and the absence of a standardized sampling procedure in the studies, makes comparison with the present study difficult. The few studies that focus on urban homegardens are related to their importance as a source of food. There are some studies from the Amazon about homegardens that allow verification of useful species which are cultivated there, including trees, shrubs, herbs, and vines, such as: Padoch & De Jong (1991), who studied 21 homegardens in river communities of Santa Rosa in the Peruvian Amazon; Brito (1996), which included 13 agroforestry homegardens in the north of Mato Grosso; and Lima and Saragoussi (2000), who studied 16 homegardens in a floodplain region near Manaus, Amazonas, the last two in Brazil. In these studies, the most representative families in numbers of species found were: Rutaceae, Euphorbiaceae, Araceae, Asteraceae, and Solanaceae. Although these families were also recorded in the present study, there were variations in the species composition, partly due to those that were locally cultivated or natural to the region, and also due to socioeconomic and cultural factors, as well as family traditions (Soermarwoto *et al.* 1985; Gliessman 1990; Padoch & De Jong 1991; Soermarwoto & Conway 1991; Lamont *et al.* 1999; Brito 1996; Santhakumar 2000; Madaleno 2001b).

Plants belonging to the three main categories of use were found in all the homegardens sampled, considering the main use cited by the informants for each species (Tab. 1).

Although the shape, size and number of species varied for each homegarden, correlation analyses indicated no statistically significant associations between species richness and lot size (Kendall-Tau = 0.20,  $p = 0.13$ ) and monthly family income (Kendall-Tau = 0.22,  $p = 0.20$ ). We could think that the greater the lot size, the greater the species richness (Lamont *et al.* 1999), although this relation was not found in this study, nor in the study conducted by Albuquerque *et al.* (2005) on the structure of homegardens in the Brazilian Northeast. Probably, the advanced age of the interviewees is a limiting factor for the cultivation of a greater number of species in bigger homegardens. In the same way, as the familiar income of the domiciles did't change too much, the richness of species also did't change significantly.

Table 1. Number of species found, categorized according to main use, in older urban homegardens in Rio Claro.

Homegarden	Total	Ornamental	Medicinal	Alimentary	Other uses	Size (m <sup>2</sup> )
14	130	70	29	28	3	1,040
02	124	93	6	19	6	1,400
01	88	34	7	44	3	715
05	83	22	20	36	5	528
13	82	61	5	12	4	516
07	81	48	18	12	3	600
17	76	38	13	21	4	428
08	71	34	7	30	0	1,080
06	63	32	7	22	2	2,000
11	59	40	3	15	1	506
10	52	21	12	19	0	440
15	50	14	9	27	0	910
09	41	12	6	20	3	572
16	40	15	14	10	1	450
03	36	18	5	12	1	800
12	33	7	6	20	0	484
04	28	10	6	12	0	616
Total	410	257	93	98	16	-
Mean	67	33.4	10.1	21.2	2.1	769.7
Standard Deviation	29.6	23.5	6.8	9.4	1.9	418.1

However, the correlation analysis did reveal a significant association between species richness and age of the homegardens (Kendall-Tau = 0.43,  $p = 0.0071$ ). This signifies that the older the homegarden, the greater the number of plant species found in it. This result corroborated by study carried out by Coomes & Ban (2004). The acquisition and maintenance of plants over time may be one explanation for this result, together with individual, traditional, and cultural factors of the informants (Rico-Gray *et al.* 1990; Caballero 1992).

The similarity index showed little variation among the groups: 53% between large and medium, 52% between large and small, and 57% between medium and small homegardens. The ease of obtaining and/or cultivating some plants may be important factors in the determination of the basic composition of these homegardens. On the other hand, the differences are, probably, related to personal differences between the owners of these homegardens.

The physiognomy of the homegardens, in turn, may be determined by the species diversity of the trees and shrubs present in each homegarden. This presence is characteristic of tropical homegardens, and in the present study, we aimed to survey the diversity of the ligneous species. The Shannon-Wiener diversity index ( $H'$  - base 10) value obtained for the older urban homegardens in Rio Claro was 1.66, which included 86 species, totaling 444 individuals from 36 families, with the most representative in terms of

number of species being Rutaceae (10), Myrtaceae (9), and Rosaceae (9).

In agroforestry homegardens in Aripuanã, plants from all the habits were surveyed and their diversity corresponded to an index of 2.22, which represents a high diversity (Brito 1996). The Shannon-Wiener index for the homegardens studied in Rio Claro could be as high as those reported by Brito in homegardens in Aripuanã if all species found, and not only the tree and shrub species, were included.

With respect to equitability, the Pielou (J) index found was 0.86, indicating low species dominance, and also indicating that the relation of species abundance in the homegardens tended to be equitable.

One of the factors that could explain the species diversity found in these homegardens is related to the origin of the informants, who came from the rural areas and developed their own adaptive strategies to cope with the new environment and new economic context in the city. To meet their food needs, they implanted a form of urban agriculture, which explains the presence of fruit trees and the diversity of hardwood species (Winklerprins 2002; Semedo & Barbosa 2007).

### Ornamental plants

The ornamental plant category was the most representative in number of species, with 257 species recorded, distributed among 77 families. The ornamental species richness would



be greater if orchids and ferns of the family Polypodiaceae were included; these were present in 10 homes, but it was not possible to identify them. The existence of many hybrids, the absence of reproductive structures, and in some cases, the impossibility of collecting botanical material are three problems faced by ethnobotanists studying plants cultivated in homegardens, particularly ornamental plants.

One factor that may be related to the greater ornamental species richness is the strong female presence in the care of the homegardens sampled. The women manifest greater involvement in the cultivation of ornamental plants (an average of 40.5 species per homegarden) than do the men (an average of 19.8 species per homegarden), and show more interest and more concern for the aesthetics of the household. According to Nair (1993), the high number of ornamental plants is associated with the aesthetic role of homegardens in cities, since they are not used for subsistence in urban areas, except among low income populations (Niñez 1984). Thus, the number of ornamental plants has increased in areas near, as well as in, urban areas in response to the process of modernization and the large supply of these plants in cities (Moura & Andrade 2007). This phenomenon has also been observed in regions where the cultivation of plants in homegardens follows a millennial tradition, as is the case of the Mayans, according to studies carried out by Rico Gray *et al.* (1990) and Caballero (1992) on the Yucatan Peninsula, Mexico.

The economic situation is another factor that may partially explain this result, since none of the interviewees depended solely on their homegardens for food. Therefore, they can seek plants from other categories to cultivate in their homegardens. However, the present study do not contemplate very different levels of income in the sampling, which would have made it possible to verify the existence of this relationship. Comparative studies of urban homegardens that include different social classes could contribute to this verification.

## Food plants

A variety of species cultivated for eating were found in all the homegardens studied, mainly fruits, and smaller amounts of vegetables. In the food category, 98 species were found pertaining to 37 families. The number of species ranged from 10 to 44, corresponding to a mean of 21 species per homegarden.

The botanical families with the higher numbers of species in this category were: Lamiaceae, represented by 10 species; Rutaceae and Myrtaceae, with 9 species each; and Solanaceae, with 6 species. All the alimentary species from the family Lamiaceae were used as condiments, indicating their important role in diversifying the flavor of food. The families Rutaceae, Solanaceae and Myrtaceae were also reported in studies by Brito (1996) carried out in northern Mato Grosso, and by Lima and Saragoussi, in the central

Amazon, who recognized their presence as representative of the number of food species, especially fruit trees. Despite being in such different regions, there appears to be a group of common exotic species, such as mango (*Mangifera indica*), papaya (*Carica papaya*), avocado (*Persea americana*), coconut (*Cocos nuccifera*), and some species of *Citrus*. In addition to these, other fruit trees have been reported in studies of tropical homegardens, such as species of the genera *Spondias*, *Annona*, *Psidium* and *Anacardium* (Rico-Gray 1990; Padoch & De Jong 1991; Lamont *et al.* 1999; Lima & Saragoussi 2000; Albuquerque *et al.* 2005; Semedo & Barbosa 2007). This similarity may be related to the process of Iberian colonization, which resulted in the introduction of various species in Brazil, as well as the large migratory flow among various regions of the country, which would have quickly disseminated these species in homegarden spaces.

In the homegardens studied, the families Rutaceae and Myrtaceae were represented by species of fruit trees. The Myrtaceae family includes plants whose fruits are rarely, or relatively rarely, commercialized, such as the grumixama (*Eugenia brasiliensis*), the strawberry guava (*Psidium cattleianum*), the rose apple (*Syzygium jambos*), the cabelluda, or yellow jaboticaba (*Myrciaria glomerata*), the uvalha (*Eugenia pyriformis*) and cherry of the Rio Grande (*Eugenia involucrata*), suggesting the important role of homegardens as a source of alternative foods. All the species are native to Brazil, with the exception of the rose apple, which although it is native to India and some of the Malaysian Islands, adapted so well to tropical conditions in South America that it appears as if it were native to Brazil (Silva & Tassara 2001). In other regions of the country, such as the Amazon, native species are represented by other families, such as the sapodilla *Achras sapota* (Sapotaceae), various species of *Theobroma* (Sterculiaceae), and pejibaye (*Bactris gasipaes*) and other palm trees (Arecaceae).

It is interesting to note that these native species, originally from the savannah or other Brazilian vegetation formations, are also found in homegardens, suggesting the importance of these homegardens as a useful source of plant germplasm. With respect to genetic potential, the number of fruit species existing in Brazil exceeds 100, many of which are not conveniently exploited. Homegardens could also be spaces to experiment with native fruit trees that the majority of Brazilians are unfamiliar with, or others that have not yet adapted to the conditions in which they are cultivated, but which are on their way to doing so, thus making possible their acclimatization and domestication (Murrayama 1973; Winklerprins 2002). But together with the germplasm conserved in the homegardens, it is extremely important to maintain the knowledge regarding these species and varieties (Valle 2000).

With respect to fruit species of the Rutaceae family, the relatively high number of varieties of the genus *Citrus* was noteworthy (13), corresponding to 8 species,

twice the number found by Brito (1996) in a study of 13 homegardens in Aripuanã, in the state of Mato Grosso. For the homeowners, the presence of this genus in their homegardens represents a fundamental source of Vitamin C in their diets. Corroborating these findings, Ambrósio *et al.* (1996), studying 13 rural homegardens in Vera Cruz, in the State of São Paulo, found that the sole sources of the Vitamins A and C in the diets of the informants were the fruit trees planted in their homegardens.

The acerola, which was the third most frequent fruit, is a relative newcomer to Brazil, its popularity having spread as a result of a large campaign to increase awareness regarding its advantages, possible uses, and methods of cultivation, based on studies showing that it contains 100 times the amount of Vitamin C contained in oranges and limes (Carpentieri-Pípolo *et al.* 2000). As expected, publicity regarding this fact gained the immediate attention of the population (Silva & Tassara 2001). In the homegardens studied, the frequency of acerola (82%) reveals the willingness of homeowners to plant new species in their homegardens that can enrich their diet when they are appropriately informed and stimulated to do so. Thus, while homeowners tend to keep traditional species planted in their homegardens, they also reveal themselves to be open to the introduction of new species, if well-structured campaigns and programs are employed to publicize the advantages and virtues of these new species, thus providing incentives for their cultivation.

It is interesting to note that the species cultivated in the homegardens sampled are, for the most part, common throughout the country. The presence of these species in homegardens in various regions of Brazil, urban and non-urban, may point to the possibility for exchange and diffusion of genetic material of fruit trees – a possibility worth exploring, especially in relation to potentially useful species (Lamont *et al.* 1999; Brito & Coelho 2000; Lima & Saragoussi 2000; Clement *et al.* 2001; Albuquerque *et al.* 2005; Semedo & Barbosa 2007).

Despite the great richness of food species found in the older urban homegardens in Rio Claro, it was found that they were underutilized as a food security resource for homeowners, signifying a loss in food production. The presence of food plants indicates the potential for contributing to greater variation in the flavors and composition of the diet. But it should not be forgotten that, despite their underutilization, the presence and consumption of food from homegardens indicate their importance as sources of vitamins and micronutrients, as corroborated by studies carried out in Manaus by Amorozo (1981), in rural homegardens in Vera Cruz, São Paulo, studied by Ambrósio *et al.* (1996), and in urban homegardens in Boa Vista, Roraima (Semedo & Barbosa 2007), and in Rosário Oeste, Mato Grosso (Amaral & Guarim-Neto 2008).

In various regions of the world, homegardens have the function of guaranteeing subsistence, and even complementing the household income (Niñez 1984;

Cleveland & Soleri 1989; Rico-Gray *et al.* 1990; Padoch & De Jong 1991; Caballero 1992; Brito & Coelho 2000; FAO 2004). In Brazil, to provide adequate food security for residents of households with homegardens, governmental and educational initiatives would be necessary that promote publicity programs in the media and encourage appreciation and improvement of these traditional systems of production. Only such initiatives would be able to have an impact on the awareness of the population capable of bringing homegardens back from the situation of near abandonment to which they have been relegated and recover a dynamism compatible with their immense productive potential.

## Medicinal plants

The medicinal plant category consisted of 93 species, from which 32% are native from Brazil, 61% are exotic, and 7% were not identified. These species are distributed among 39 families, with Lamiaceae and Asteraceae presenting the largest number of species, corresponding to 34% of the total medicinal plants found in the homegardens (Appendix 1). These families were also found to be the most representative in homegardens studied by Brito (1996), in Mato Grosso, and by Silva-Almeida & Amorozo (1998), in a district of Rio Claro. In these studies, 53 and 55 medicinal species, respectively, were found being cultivated. Thus, it can be concluded that the homegardens studied shelter a high richness of medicinal plants, a fact that may be associated with the age group of the informants, as the mean age of the sample was 73 years. In general, the elderly retain more knowledge about the use of medicinal plants, largely due to their accumulated experience, as well as their own need to use them, given their advanced age.

Most of the medicinal species present in the homegardens studied were herbs (69%), followed by trees (15%) and shrubs (13%). Amorozo & Gély (1988) also found that herbs were the most common medicinal plants used in the region of the Lower Amazon. The same has been reported in other studies, such as Jacomassi & Piedade (1994), Silva-Almeida & Amorozo (1998), and Brito (1996). The great majority of medicinal species found were exotic, introduced by European immigrants, and adapted well to homegardens, being incorporated into popular knowledge.

The most frequent medicinal plants in the homegardens sampled were used mainly as sedatives (rosemary, lemongrass, and mint), analgesics for sore throat (ginger root and pomegranate), remedies for liver and stomach problems (boldo and carqueja), respiratory problems (epazote), and healing wounds (aloe). Rosemary, lemongrass, boldo, pennyroyal, and mint were also the species most reported by Jacomassi & Piedade (1994). The authors comment that this is probably due to the fact that these plants are used to meet basic day-to-day needs. Similar results were also found by other authors in studies realized in other regions of the country, for example in the Southeast and South (Castellucci

*et al.* 2000; Dorigoni *et al.* 2001; Garlet & Irgang 2001; Pilla *et al.* 2006). Some of these species have scientifically proven pharmacological properties, such as boldo (*Plectranthus barbatus*) and mint (*Mentha* sp.) (Panizza *et al.* 1982; Manns 1995). Other species found in the homegardens are equally well-known in various parts of the world, such as *Cymbopogon citratus* (lemongrass) and *Melissa officinalis* (balm-mint), both used as sedatives (Cruz 1982).

Among their different uses, the large majority of the medicinal plants found in the homegardens are consumed as teas, prepared by decoction (42%) and also by infusion (18%). The part of the plant most commonly used in preparation is the leaf (76%), but other parts were also observed being used (root, stem, flower, fruit, and seed).

Ailments for which the largest number of plant species were used were related to the digestive system (32), nervous system (12), and respiratory system (11). The species whose therapeutic effect acted on the nervous system were used mainly as sedatives, and also to address sleep disorders and alleviate day-to-day stress, common in urban areas. In other places in Brazil, the most common use of medicinal plants is for the treatment of ailments of the digestive and respiratory systems (Amorozo & Gély 1988; Hanazaki *et al.* 1996; Silva-Almeida & Amorozo 1998; Amorozo 2002).

Plants such as pennyroyal, *Mentha pulegium*, and mint, *Mentha* sp., were cited for the treatment of six ailments, including digestive system problems, worms, colds, and also as sedatives. Mint was also cited for the treatment of high blood pressure and pennyroyal for cough. According to Cruz (1982), pennyroyal and mint have always been traditional plants widely used by Brazilian families.

The production of medicinal plants in homegardens has relevant importance as an alternative for populations with limited access to modern medical services (Silva-Almeida & Amorozo 1998). Although the population sampled resides in an urban area, the plants with therapeutic properties that grow in their homegardens represent a readily available resource for common, less serious afflictions, such as colds and indisposition, partially guaranteeing the well-being of the residents. The high cost of medicine and private health care is another factor that stimulates local production of the remedies grown in homegardens.

## Conclusions

Old urban homegardens in Rio Claro revealed themselves to be locales with great vegetation richness, as the study of 17 of these homegardens showed the presence of 410 species distributed among 97 botanical families.

The study also showed that the richness, similarity, and diversity of plant species found in the homegardens studied are associated with the cultural background common to the homeowners, as well as the preferences and experiences acquired by them throughout their lives.

Another aspect that should be highlighted is the important role of the aesthetic function in the cultivation of plants in urban homegardens, made evident by the large number of ornamental species observed in this study. The important role of women in the cultivation of these plants and consequent diffusion of this vegetation richness should also be emphasized.

The richness found in the homegardens studied is not restricted to the number of species but manifests itself, as well, in the large number of varieties of fruit trees. Many of these fruits are neither commonly available in markets nor cultivated by commercial agriculture. A clear example of this is the large number of varieties of the genus *Citrus* that are preserved locally only because people plant them in their homegardens. In addition, the presence of fruits that originated in the savannah and other Brazilian vegetative formations, which in the studied region are threatened with extinction due to the pressures of large-scale agricultural activities, points to the relevant role of homegardens in the conservation of native species that originated from these habitats.

Most of the plants surveyed are exotic and widely disseminated throughout Brazil. Given the receptivity of homeowners to the introduction of new species, as clearly illustrated by the case of the acerola, dissemination of equal proportions could occur with native species if educational campaigns were implemented to encourage the population. If this receptivity were stimulated and reinforced, for example via Internet sites that map the presence of a wide range of varieties in a range of urban homegardens, this could encourage the diffusion of seedlings and seeds as well as the appreciation and dissemination of fruit varieties endowed with exceptional flavor or nutritional characteristics, for example, and perhaps even provide incentive for the establishment of alternative markets of non-conventional fruits and medicinal plants. In this sense, ethnobotanical studies allied with governmental and educational initiatives diffused by the media, could provide support for the implantation of regional programs that aim to intensify and improve the exploitation of homegardens. Such support could include incentives for the cultivation of food and medicinal plants, be they native or exotic.

The presence of fruit trees whose lineage has been conserved over the years would be enough to justify the relevance of homegardens as conservation systems for plant resources and germplasm of cultivated plants. The revitalization of the use of homegardens would be of invaluable importance for the conservation of rare species, as well as for the provision not only of resources with obvious utility to urban populations, but also of little known or little used alimentary, medicinal, and ornamental resources that could multiply the number of conventional uses of plants cultivated in homegardens.

In the meantime, the future of homegardens is uncertain. Their continued use, and even their existence, may be



threatened due to the rapid changes occurring in their physical aspects (for example, their deactivation for the construction of garages or cemented areas, like the five homegardens deactivated during our study that composed part of our original sample) and urban land use pressure, as well as the rupture in the tradition of cultivation and care of these homegardens by new generations that are increasingly giving in to the pressures of economic development and new lifestyles, and are turning their backs to their homegardens. The present study raises the somber perspective that these homegardens, in spite of their great richness, effective and potential, could disappear from the urban scene, and with them, all the knowledge involved in their care. This valuable knowledge will be distinguished unless this prediction changes, this invaluable store is recorded and disseminated, and new generations are motivated to recover and re-energize the productive capacity of homegardens.

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Appendix 1. Species found in urban homegardens in Rio Claro.

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
Family: Acanthaceae			
<i>Asystasia gangetica</i> T.Anders. (Eichemberg, M.T. n° 283)	Flowering vine/ Flor tipo trepadeira	O	1
<i>Crossandra infundibuliformis</i> Nees “Mona wallhead” (Eichemberg, M.T. n° 670)	Flower/ Flor	O	1
<i>Eranthemum nervosum</i> R.Br. ex. Roem. & Schult (Eichemberg, M.T. n° 626)	Flower/ Flor	O	1
<i>Hypoestes sanguinolenta</i> (Van Houtte) Hook. (Eichemberg, M.T. n° 309, 427, 571)	Green plant / Folhagem	O	3
<i>Justicia brandegeana</i> Wassh.& Lor.B.Sm. (Eichemberg, M.T. n° 266, 440)	Shrimp plant / camarão	O	4
<i>Justicia carnea</i> Lindl. (Eichemberg, M.T. n° 280)	Flower/ Flor	O	1
<i>Pachystachys lutea</i> Nees (Eichemberg, M.T. n° 265, 436)	Golden shrimp plant/Camarão/língua-de-sogra	O	3
<i>Ruellia brevifolia</i> (Pohl.) C.Ezcurra (Eichemberg, M.T. n° 447)	Flower/ Flor	O	1
<i>Sanchezia nobilis</i> Hook. (Eichemberg, M.T. n° 294)	Green plant/ Folhagem	O	1
<i>Thunbergia mysorensis</i> (Wight) T.Anders ex Bedd (Eichemberg, M.T. n° 449)	Clock Vine/ Trepadeira sapatinho-de-judia	O	1
indet. (Eichemberg, M.T. n° 332, 667)	Green plant/ Folhagem	O	1
Family: Amaranthaceae			
<i>Alternanthera bettzickiana</i> (Regel) Standl. (Eichemberg, M.T. n° 421)	Green plant /Folhagem	O	1
<i>Alternanthera brasiliana</i> (L.)O. Kuntze (Eichemberg, M.T. n° 15)	---/ Penicilina	M	4
<i>Alternanthera ficoidea</i> (L.) P. Beauv (Eichemberg, M.T. n° 471)	---/ Periquito	O	1
<i>Celosia cristata</i> Linn (Eichemberg, M.T. n° 442)	Bombay purple/ Crista-de-galo	O	2
<i>Gomphrena celosioides</i> Mart. (Eichemberg, M.T. n° 551)	Flower/ Flor	O	1
<i>Gomphrena globosa</i> Linn (Eichemberg, M.T. n° 559)	Globe amaranth/ Perpétua	O	2
Family: Amaryllidaceae			
<i>Crinum cf powellii</i> Hort. Ex Baker	Crinum/ Açucena	O	2
<i>Crinum</i> sp	Amariyllis/ Amarilis	O	2
<i>Eucharis grandiflora</i> Planch. & Linden (Eichemberg, M.T. n° 573)	---/ Estrela-D’Alva	O	3
<i>Hippeastrum reginae</i> (L.)Herb. (Eichemberg, M.T. n° 646)	---/ Açucena	O	1
<i>Scadoxus multiflorus</i> (Martyn) Raf. (Eichemberg, M.T. n° 210)	Africa blood lily/ Coroa-do-império	O	1
Family: Anacardiaceae			
<i>Anacardium occidentale</i> Linn (Eichemberg, M.T. n° 10, 58, 581)	Cashew fruit/ Cajú	A/M	6
<i>Mangifera indica</i> Linn (Eichemberg, M.T. n° 2, 7, 590)	Mango/ *Manga espada/coquinho /bourbon/Ades/abacaxi	A	14
<i>Spondias purpurea</i> Linn (Eichemberg, M.T. n° 528)	---/ Siriguela	A	1
Family: Annonaceae			
<i>Annona muricata</i> Linn (Eichemberg, M.T. n° 527)	Soursop/ Graviola	A/M	1
<i>Annona reticulata</i> Linn (Eichemberg, M.T. n° 1, 65, 456)	---/ fruta-do-conde	A/M	3
<i>Rollinia mucosa</i> (Jacq.)Baill (Eichemberg, M.T. n° 105)	---/ Pinha	A	6
<i>Rollinia</i> sp (Eichemberg, M.T. n° 129)	---/ Fruta-do-conde	A/M	1
Family: Apiaceae			
<i>Daucus carota</i> Linn	Carrot/ Cenoura	A	1
<i>Foeniculum vulgare</i> Linn (Eichemberg, M.T. n° 24)	---/ Erva-doce	M	1
<i>Petroselinum sativum</i> Hoffm. (Eichemberg, M.T. n° 124)	Parsley/ Salsa	A/M	9
Family: Apocynaceae			
<i>Allamanda cathartica</i> Linn (Eichemberg, M.T. n° 438, 693)	Golden trumpet/ Alamanda	O	1
<i>Catharanthus roseus</i> (L.)G.Don (Eichemberg, M.T. n° 368, 464, 494)	Madagascar periwinkle/ Beijo/boa-noite	O	3
<i>Ervatamia coronaria</i> (Jacq.)Stapf. (Eichemberg, M.T. n°341,470, 539, 627)	---/ Árvore da flor branca/Jasmim	O	4
<i>Nerium oleander</i> Linn (Eichemberg, M.T. n° 245, 562, 647)	Oleander/ Espirradeira	O/M	3
<i>Trachelospermum jasminoides</i> Lem. (Eichemberg, M.T. n° 503)	Star jasmine / Jasmim miúdo	O	1
Family: Aquifoliaceae			
<i>Ilex cf aquifolium</i> Linn (Eichemberg, M.T. n° 243, 642)	---/ Azevinho/Espinheira-Santa	M	1
Family: Araceae			
<i>Aglaonema commutatum</i> Schott. (Eichemberg, M.T. n° 510)	Green plant /Folhagem	O	1
<i>Aglaonema pseudo-bracteatum</i> Hort. (Eichemberg, M.T. n° 146, 346, 425, 449, 538)	---/ Comigo ninguém pode	O	5
<i>Alocasia cuprea</i> K.Koch (Eichemberg, M.T. n° 196)	---/ Costela-de-Adão	O	1
<i>Alocasia macrorrhiza</i> Schott (Eichemberg, M.T. n° 130, 385)	Giant taro / Taioba/orelha-de-elefante	M/A	3
<i>Anthurium andraeanum</i> Linden (Eichemberg, M.T. n° 163, 194, 430)	Tailflower/ Antúrio	O	5
<i>Anthurium froebelii</i> Hort. (Eichemberg, M.T. n° 256, 267, 282, 362)	Tailflower/ Antúrio	O	11
<i>Caladium x hortulanum</i> Birdsey (Eichemberg, M.T. n° 161, 212)	---/ Coração-de-boi	O	3
cf <i>Philodendron martianum</i> Engl. (Eichemberg, M.T. n° 406)	Green plant/Folhagem	O	1

Continua

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Dieffenbachia amoena</i> Bull. (Eichemberg, M.T. n° 269, 313, 431, 433, 445, 509, 517)	Dumb Cane / Comigo-ninguém-pode	Out/O	5
<i>Monstera adansonii</i> Schott (Eichemberg, M.T. n° 270, 344)	Green plant/ Folhagem/ Guembê	O	2
<i>Monstera deliciosa</i> Liebm.	Green plant/ Folhagem	O	1
<i>Philodendron bipinnatifidum</i> Schott ex Endl. (Eichemberg, M.T. n° 319)	---/ Banana-de-macaco/Guembê	M/O	1
<i>Philodendron cf imbe</i> Schott. (Eichemberg, M.T. n° 172, 211)	Green plant / Folhagem	O/Out	2
<i>Philodendron selloum</i> C.Koch (Eichemberg, M.T. n° 154)	---/ Guembê	O/M	1
<i>Scindapsus aureus</i> Engl. (Eichemberg, M.T. n° 157, 363, 386, 502, 512)	---/ Jibóia/Costela-de-Adão	O	5
<i>Spathiphyllum wallisi</i> Regel (Eichemberg, M.T. n° 217, 392, 673)	Peace lily/ Lírio da paz	O	7
<i>Syngonium angustatum</i> Schott (Eichemberg, M.T. n° 158, 171, 215, 216, 271, 327, 350, 424, 428, 461, 492)	---/ Orelha-de-burro/cabeça-de-cavalo	O	9
<i>Zantedeschia aethiopica</i> Spreng.	Calla lily/ Copo de leite	O	1
Family: Araliaceae			
<i>Hedera helix</i> Linn (Eichemberg, M.T. n° 514)	Vine/ Trepadeira	O	1
<i>Polyscias balfouriana</i> L.H.Bailey (Eichemberg, M.T. n° 426)	Flower/green plant / Flor/Falhagem	O	1
<i>Polyscias fruticosa</i> Harms (Eichemberg, M.T. n° 177)	Ming aralia / Árvore-da-felicidade/Dinheiro	O/Out	7
<i>Polyscias guilfoylei</i> L.H.Bailey (Eichemberg, M.T. n° 496)	Ming aralia/ Árvore-da-felicidade	O	2
<i>Schefflera arboricola</i> (Hayata) Merr. (Eichemberg, M.T. n° 168, 380, 513)	---/ Chefêria	O	3
Family: Arecaceae			
<i>Coccothrinax argentata</i> (N.J.Jacqum) L.H.Bailey	Palm/ Palmeira	O	1
<i>Cocos nucifera</i> Linn	Coconut/ Côco	A	1
<i>Dypsis lutescens</i> (H.Wendl.) Beentje & J.Dransf.	Bamboo/ Bambú	O	5
<i>Rhapis excelsa</i> (Thunberg) Henry ex. Rehder (Eichemberg, M.T. n° 289)	Palm/ Palmeira	O	1
Indet.	Palm/ Palmeira	A	1
Family: Asclepiadaceae			
<i>Hoya carnosa</i> R.Br. (Eichemberg, M.T. n° 272, 429)	Wax flower or porcelain flower/ Flor-de-cêra	O	2
<i>Stapelia hirsuta</i> Linn (Eichemberg, M.T. n° 628)	Cactus	O	3
<i>Stephanotis floribunda</i> Brongn. (Eichemberg, M.T. n° 268)	---/ Estefanorte	O	3
Family: Aspleniaceae			
<i>Asplenium nidus</i> Linn	---/ Esplênio	O	1
Family: Asteraceae			
<i>Achillea millefolium</i> Linn (Eichemberg, M.T. n° 374)	---/ Anador	M	1
<i>Ageratum conyzoides</i> Linn (Eichemberg, M.T. n° 553)	---/ Mentrasto	M	1
<i>Anthemis nobilis</i> Linn (Eichemberg, M.T. n° 35)	---/ Macelinha galega	M	1
<i>Artemisia absinthium</i> Linn (Eichemberg, M.T. n° 37)	---/ Losna	M	3
<i>Artemisia camphorata</i> Vill. (Eichemberg, M.T. n° 66, 125)	---/ Cânfora	M	3
<i>Baccharis trimera</i> (Less) DC. (Eichemberg, M.T. n° 34, 593)	---/ Carqueja	M	3
<i>Bidens pilosa</i> Linn (Eichemberg, M.T. n° 676)	---/ Picão	M	1
<i>Bidens sulphurea</i> Sch. Bip. (Eichemberg, M.T. n° 688)	---/ Flor-do-campo	O	1
<i>Callistephus chinensis</i> Nees (Eichemberg, M.T. n° 378)	---/ Rainha-de-margarida	O	1
<i>Chrysanthemum leucanthemum</i> Linn (Eichemberg, M.T. n° 481, 505)	---/ Margarida/Olga	O	3
<i>Chrysanthemum parthenium</i> Bernh.	---/ Artemija	O/M	1
<i>Cichorium intybus</i> Linn (Eichemberg, M.T. n° 586)	---/ Almeirão	A	5
<i>Dahlia pinnata</i> Cav. (Eichemberg, M.T. n° 463)	---/ Dália	O	2
<i>Dendranthema grandiflorum</i> (Ramat.) Kitam. (Eichemberg, M.T. n° 192, 226, 358)	---/ Artemisia/Bom-Senhor/crisantema	M/O	6
<i>Emilia sonchifolia</i> (L.)D.C. (Eichemberg, M.T. n° 684)	---/ Serraia	A/M	1
<i>Gerbera jamesoni</i> Bolus (Eichemberg, M.T. n° 377)	---/ Gerbra	O	1
<i>Helichrysum bracteatum</i> Andr.	---/ Sempre-viva	O	2
<i>Lactuca sativa</i> Linn	Lettuce/ Alface	A	1
<i>Mikania glomerata</i> Spreng. (Eichemberg, M.T. n° 621)	---/ Guaco	M	1
<i>Mikania cordifolia</i> (L.f.) Willd. (Eichemberg, M.T. n° 36, 630)	---/ Guaco	M	4
<i>Porophyllum ruderale</i> (Jacq.) Coss. (Eichemberg, M.T. n° 93, 678)	---/ Arnica	M	3
<i>Tagetes erecta</i> Linn (Eichemberg, M.T. n° 312)	---/ Cravo-de-defunto	O/M	1
<i>Tithonia diversifolia</i> A.Gray (Eichemberg, M.T. n° 142)	---/ Mão-de-Deus	O	1
<i>Vernonia condensata</i> Baker (Eichemberg, M.T. n° 137, 189, 639)	---/ Estomalina	M	2
<i>Zinnia elegans</i> Jacq. (Eichemberg, M.T. n° 387)	---/ Capitão	O	1
Family: Balsaminaceae			
<i>Impatiens balsamina</i> Linn (Eichemberg, M.T. n° 555)	---/ Beijo	O	2

Continua



Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Impatiens walleriana</i> Hook.f.	---/ Beijo/Maria sem vergonha	O	6
<i>Impatiens walleriana</i> Hook.f."Nana" (Eichemberg, M.T. n° 159, 552, 602)	Beijo-alemão		
Family: Begoniaceae			
<i>Begonia aconitifolia</i> A. DC. (Eichemberg, M.T. n° 273, 329, 521)	---/ Begônia /alfinete-de-moça	O	3
<i>Begonia boveri</i> Ziesenh. "Nigramarga" (Eichemberg, M.T. n° 572)	Begonia	O	1
<i>Begonia cf ulmifolia</i> Willd. (Eichemberg, M.T. n° 288)	Begonia	O	1
<i>Begonia coccinea</i> Hook. (Eichemberg, M.T. n° 278)	Begonia	O	1
<i>Begonia cucullata</i> Willd. (Eichemberg, M.T. n° 224)	---/ Azedinha	O	1
<i>Begonia elatior</i> Hort. ex Steud. (Eichemberg, M.T. n° 472)	Green plant/ Folhagem	O	1
<i>Begonia manicata</i> Cels. ex Vis. (Eichemberg, M.T. n° 173, 315)	Begonia /green plant/ Folhagem	O	2
<i>Begonia</i> sp (Eichemberg, M.T. n° 179, 281, 366, 530, 645)	---/ Begônia	O	5
Family: Bignoniaceae			
<i>Podranea ricasoliana</i> Sprague (Eichemberg, M.T. n° 478)	Vine/ sete-léguas	O	1
<i>Pyrostegia venusta</i> Miers (Eichemberg, M.T. n° 525)	---/ Flor-de-São João	O	1
<i>Tabebuia</i> sp (Eichemberg, M.T. n° 648)	---/ Ipê-amarelo	O	1
Indet. (Eichemberg, M.T. n° 257)	---/ Ipê-roxo	O	1
Family: Boraginaceae			
<i>Cordia ecalyculata</i> Vell. (Eichemberg, M.T. n° 72, 671)	---/ Café-de-bugre	M	1
<i>Symphytum officinale</i> Linn (Eichemberg, M.T. n° 39, 466)	Comfrey/ Confrei	M	2
Family: Brassicaceae			
<i>Brassica oleracea</i> Linn v. <i>italica</i> (Eichemberg, M.T. n° 620)	Broccoli/Brócolis	A	1
<i>Brassica oleracea</i> Linn v. <i>acephala</i> (Eichemberg, M.T. n° 594)	Cabbage/ Couve	A/M	11
<i>Eruca sativa</i> Mill. (Eichemberg, M.T. n° 689)	Arugula/Rúcula	A	2
<i>Sinapis arvensis</i> Linn (Eichemberg, M.T. n°231, 687)	Mustadr/ Mostarda	A	4
Family: Bromeliaceae			
<i>Ananas ananassoides</i> (Baker) L.B.Smith (Eichemberg, M.T. n° 92)	Ornamental pineapple	A	3
<i>Ananas comosus</i> (L.) Merr.	Pineapple/Abacaxi	O	6
<i>Bromelia cf balansae</i> Mez	Pineapple/Abacaxi	O	1
<i>Guzmania ligulata</i> Mez	---/ Bromelia	O	1
Family: Buxaceae			
<i>Buxus sempervirens</i> Linn (Eichemberg, M.T. n° 533)	---/ Buchinha	O	1
Family: Cactaceae			
<i>Cereus cf jamacaru</i> DC.	---/ Cactus	O	1
<i>Hylocereus undatus</i> Britton & Rose	---/ Cactus	O	1
<i>Rhipsalis baccifera</i> (Mill.) Stearn (Eichemberg, M.T. n° 18, 164)	---/ Cactus/Flor-da-miséria	O	7
<i>Rhipsalis cf oblonga</i> Loefgr.	---/ Cactus	O	2
<i>Schlumbergera truncata</i> (Haw.) Moran (Eichemberg, M.T. n° 201, 390)	Holiday cactus/ Flor-de-maio	O	8
indet1	---/ Cactus	O	2
indet2	---/ Cactus	O	2
indet3	---/ Cactus 5	O	1
indet4	---/ Cactus 6	O	1
indet5	---/ Cactus 8	O	1
Family: Campanulaceae			
<i>Isotoma longiflora</i> J.Presl (Eichemberg, M.T. n° 473)	---/ Folha espinhuda	O	1
Family: Cannaceae			
<i>Canna denudata</i> Roscoe (Eichemberg, M.T. n° 219, 482)	Coloral,green plant/ Folhagem	A/O	2
<i>Canna x generalis</i> L.H.Bailey	---/ Lírio/Palma-de-São José	O	2
Family: Caprifoliaceae			
<i>Lonicera japonica</i> Thunb. (Eichemberg, M.T. n° 252)	---/ Trepadeira madressilva	O	1
Family: Caricaceae			
<i>Carica papaya</i> Linn	*Mamão/Mamão amarelo/Mamão bola/Mamão papaya	A/M	16
Family: Caryophyllaceae			
<i>Dianthus caryophyllus</i> Linn (Eichemberg, M.T. n° 484)	Carnation/Cravinho	O	1
Family: Celastraceae			
<i>Euonymus japonica</i> Linn f. (Eichemberg, M.T. n° 19)	Shrub/ Arbusto	O	1
Family: Chenopodiaceae			
<i>Chenopodium ambrosioides</i> Linn (Eichemberg, M.T. n° 38)	---/ Erva-de-Santa Maria	M	6
<i>Spinacia oleracea</i> Linn (Eichemberg, M.T. n° 589)	Spinach/ Espinafre	A	1

Continua

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
Family: Commelinaceae			
<i>Commelina cf erecta</i> Linn (Eichemberg, M.T. n° 548)	---/ Flor roxa	O	1
<i>Dichorisandra thyrsiflora</i> J.C.Mikan (Eichemberg, M.T. n° 441)	Green plant/ Folhagem	O	2
Family: Convolvulaceae			
<i>Evolvulus glomeratus</i> Nees & Mart. (Eichemberg, M.T. n° 342, 410)	---/ Flor azul/florzinha miúda	O	2
Family: Costaceae			
<i>Costus spiralis</i> Roscoe (Eichemberg, M.T. n° 85, 261, 264, 275)	---/ Cana-da-Índia/cana-do-brejo	O/M	7
Family: Crassulaceae			
<i>Bryophyllum calycinum</i> Salisb. (Eichemberg, M.T. n° 322)	---/ Mão-de-Deus	O	1
<i>Kalanchoe blossfeldiana</i> Poelln. (Eichemberg, M.T. n° 199, 301)	---/ Balalaica/flor-dos-pais	O	5
<i>Kalanchoe fedtschenkoi</i> Hamet-Ahti & H.Perrier	---/ Flor-dos-pais/flor-do-Ceará	O	2
<i>Kalanchoe gastonis-bomieri</i> Hamet-Ahti & H.Perrier (Eichemberg, M.T. n° 33, 578)	---/ Remédio-para-câncer/Green plant/ Folhagem	M	3
<i>Sedum dendroideum</i> Moc. & Sessé ex DC. (Eichemberg, M.T. n° 314)	---/ Bálamo	M	7
<i>Sedum morganianum</i> Walth. (Eichemberg, M.T. n° 497)	---/ Dedo-de-moça	O/M	1
<i>Sedum spectabile</i> Bor (Eichemberg, M.T. n° 255)	Green plant/ Folhagem	O	1
Indet. (Eichemberg, M.T. n° 394)	Green plant/ Folhagem	O	1
Indet. (Eichemberg, M.T. n° 395)	Green plant/ Folhagem	O	1
Family: Cucurbitaceae			
<i>Cucumis melo</i> Linn	Melon/ Melão	A	1
<i>Cucurbita maxima</i> Duch.	---/ Moranga	A	1
<i>Cucurbita moschata</i> Duch. (Eichemberg, M.T. n° 61)	Squash/Abóbora	A	3
<i>Luffa cylindrica</i> (L..) Roem. (Eichemberg, M.T. n° 110)	Loofah sponge gourd/ Bucha vegetal	Outros	1
<i>Sechium edule</i> (Jacq.)Sw. (Eichemberg, M.T. n° 49)	Chayote/ Chuchu/Machuchu	A	2
Family: Cupressaceae			
<i>Chamaecyparis obtusa</i> Sieb. & Zucc. (Eichemberg, M.T. n° 653)	---/ Pinheiro/cipreste	O	1
Family: Cycadaceae			
<i>Cycas circinalis</i> Roxb.	Cica/palmeira	O	3
<i>Cycas revoluta</i> Thunb.	---/ Coqueiro	O	1
Family: Cyclanthaceae			
<i>Carludovica palmata</i> Ruiz & Pav. (Eichemberg, M.T. n° 393)	---/ Coqueiro	O	2
Family: Davalliaceae			
<i>Davallia fijiensis</i> Hook (Eichemberg, M.T. n° 203, 235, 384)	Davallia fern/ Renda-portuguesa	O	11
<i>Nephrolepis biserrata</i> (Sw) Schott. (Eichemberg, M.T. n° 532, 566)	Fern/ Samambaia	O	2
<i>Nephrolepis exaltata</i> Schott. (Eichemberg, M.T. n° 401, 567)	Fern/ Samambaia	O	4
<i>Nephrolepis pectinata</i> (Willd.) Schott (Eichemberg, M.T. n° 206, 616)	Fern/ Samambaia	O	1
<i>Nephrolepis</i> sp1	Fern/ Samambaia	O	1
<i>Nephrolepis</i> sp2	Fern/ Samambaia	O	1
<i>Nephrolepis</i> sp3	Fern/ Samambaia	O	1
<i>Nephrolepis</i> sp4 (Eichemberg, M.T. n° 486)	Fern / Samambaia	O	1
<i>Nephrolepis</i> sp5 (Eichemberg, M.T. n° 32, 364)	Fern / Samambaia paulistinha	O/M	3
<i>Nephrolepis</i> sp6 (Eichemberg, M.T. n° 169)	Fern / Samambaia-de-metro	O	1
<i>Nephrolepis</i> sp7 (Eichemberg, M.T. n° 365)	Fern / Samambaia saia-de-baiana	O	1
<i>Nephrolepis</i> sp8 (Eichemberg, M.T. n° 204)	Fern / Samambaia cabelo-de-anjo	O	3
<i>Nephrolepis</i> sp9 (Eichemberg, M.T. n° 205)	Fern / Samambaia/samambaia-cabeluda	O	3
Family: Dryopteridaceae			
<i>Rumohra adiantiformis</i> (F) Ching (Eichemberg, M.T. n° 160)	Fern/ Samambaia	O	2
Family: Ebenaceae			
<i>Diospyrus kaki</i> Linn (Eichemberg, M.T. n° 82)	Persimmon/ Caqui	A	5
Family: Ericaceae			
<i>Rhododendron simsii</i> Planch. (Eichemberg, M.T. n° 198, 308)	Azalia/ Azaléia	O	9
Family: Euphorbiaceae			
<i>Acalypha reptans</i> Sw. (Eichemberg, M.T. n° 382)	---/ Rabo-de-gato	O	2
<i>Acalypha wilkesiana</i> Müll.Arg. (Eichemberg, M.T. n° 432, 518)	Tree/green plant / Folhagem	O	3
<i>Breynia nivosa</i> Small (Eichemberg, M.T. n° 227, 522)	Green plant / Folhagem	O	2
<i>Codiaeum variegatum</i> Blume (Eichemberg, M.T. n° 147, 337)	Green plant/ Folhagem	O	2
<i>Euphorbia milii</i> Des Moul. ex Boiss. "Milii"	---/ Coroa-de-Cristo	O/M	1
<i>Euphorbia pulcherrima</i> Willd.ex Klotzsch (Eichemberg, M.T. n° 144, 223)	---/ Flor-de-maio/papagaio/bico-de-papagaio	O	5

Continua

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Jatropha gossypifolia</i> Linn (Eichemberg, M.T. n° 114, 680)	---/ Pinhão	A	1
<i>Manihot esculenta</i> Crantz (Eichemberg, M.T. n° 608)	*Mandioca/amarela/ branca/ pão do céu/ vassourinha (cassava)	A/M	10
<i>Pedilanthus tithymaloides</i> Poit. (Eichemberg, M.T. n° 408, 632)	Green plant / Folhagem	O	1
<i>Phyllanthus tenellus</i> Roxb. (Eichemberg, M.T. n° 190, 604)	---/ Quebra-pedra	M	4
<i>Ricinus communis</i> Linn	---/ Mamona	O	1
Indet. (Eichemberg, M.T. n° 651)	---/ Bálsamo branco	M	2
Family: Geraniaceae			
<i>Pelargonium hortorum</i> L.H.Bailey (Eichemberg, M.T. n° 218)	Geranium/ Gerânio	O	8
Family: Gesneriaceae			
<i>Nematanthus wettsteinii</i> (Fritsch) H.E.Moore (Eichemberg, M.T. n° 151, 413)	---/ Flor vermelha 7	O	2
<i>Saintpaulia ionantha</i> H. Wendl. (Eichemberg, M.T. n° 251, 306)	Violet/ Violeta africana/violeta	O	7
Family: Heliconiaceae			
<i>Heliconia hirsuta</i> Linn. (Eichemberg, M.T. n° 276)	Green plant/ Folhagem	O	1
<i>Heliconia rostrata</i> Ruiz & Pav. (Eichemberg, M.T. n° 284)	Green plant/bananeira-ornamental/ Folhagem	O	1
Family: Iridaceae			
<i>Belamcanda chinensis</i> DC.	---/ Palma	O	1
<i>Gladiolus hortulanus</i> L.H.Bailey	---/ Palma	O	1
<i>Neomarica caerulea</i> Sprague	---/ Íris	O	1
<i>Neomarica candida</i> Sprague	---/ Íris	O	1
Family: Lamiaceae			
<i>Lavandula officinalis</i> Chaix & Kitt. (Eichemberg, M.T. n° 25)	---/ Cânfora	M	1
<i>Leonotis nepetaefolia</i> (L.) R.Br. (Eichemberg, M.T. n° 596)	---/ Rubim	M	1
<i>Leonurus japonicus</i> Houtt (Eichemberg, M.T. n° 126, 691)	---/ Rubi	M	1
<i>Melissa officinalis</i> Linn (Eichemberg, M.T. n° 321)	Balm mint/Cidreira-em-folha	M	2
<i>Mentha citrata</i> Ehrh. (Eichemberg, M.T. n° 654)	---/ Solevante	M	1
<i>Mentha pulegium</i> Linn (Eichemberg, M.T. n° 70, 121, 323)	Pennyroyal/Poejo	M	6
<i>Mentha</i> sp1 (Eichemberg, M.T. n° 31, 69, 75)	Peppermint/Hortelã	M	10
<i>Mentha</i> cf <i>arvensis</i> Linn (Eichemberg, M.T. n° 477, 601)	Spearmint/ Hortelã/Menta	A/M	2
<i>Mentha</i> sp2 (Eichemberg, M.T. n° 356)	Pennyroyal/Poejo	M	1
<i>Ocimum basilicum</i> Linn (Eichemberg, M.T. n° 48, 540)	Basil/Manjericão	A	8
<i>Ocimum gratissimum</i> Linn (Eichemberg, M.T. n° 29, 120, 230)	---/ Alfavacão	M	4
<i>Ocimum selloi</i> Benth. (Eichemberg, M.T. n° 27, 56)	---/ Atroverã	M	4
<i>Ocimum</i> sp1 (Eichemberg, M.T. n° 41, 117)	---/ Alfavaca	A	3
<i>Ocimum</i> sp2 (Eichemberg, M.T. n° 55, 187)	Italian basil/ Manjericão-da-Itália	A	3
<i>Origanum majorana</i> Linn (Eichemberg, M.T. n° 74, 122, 355)	Marjoram/Manjeronia	A	5
<i>Origanum vulgare</i> Linn (Eichemberg, M.T. n° 123)	Oregano/ Orégano	A	2
<i>Plectranthus amboinicus</i> (Lour.) Spreng. (Eichemberg, M.T. n° 20, 592)	Northern mint/ Hortelã-do-Norte	M	1
<i>Plectranthus barbatus</i> Andrews (Eichemberg, M.T. n° 6, 84, 113 )	---/ Boldo	M	9
<i>Plectranthus neochilus</i> Schlechter (Eichemberg, M.T. n° 30, 83)	Chilean boldo/ Boldo-do-Chile	M	2
<i>Plectranthus nummularius</i> Briq. (Eichemberg, M.T. n° 148)	---/ Dinheiro-em-penca	O	2
<i>Rosmarinus officinalis</i> Linn (Eichemberg, M.T. n° 28, 68)	Rosemary/ Alecrim	A/M/Ou	8
<i>Salvia officinalis</i> Linn (Eichemberg, M.T. n° 26)	Sage/ Sálvia	A/M	1
<i>Salvia splendens</i> Ker Gawl. (Eichemberg, M.T. n° 247)	Sangue-de-Adão	Outros	1
<i>Satureja</i> sp (Eichemberg, M.T. n° 42)	---/ Siguréia	A	1
<i>Solenostemon scutellarioides</i> (L.)Codd. (Eichemberg, M.T. n° 338)	Green plant/ Folhagem	O	3
<i>Solenostemon</i> sp (Eichemberg, M.T. n° 465)	Green plant/ Folhagem	O	1
<i>Tetradenia riparia</i> (Hochst.) Codd. (Eichemberg, M.T. n° 143, 327)	---/ Incenso	Outros	5
Family: Lauraceae			
<i>Laurus nobilis</i> Linn (Eichemberg, M.T. n° 53, 607)	Bay leaf/ Louro	A/M	7
<i>Persea americana</i> Mill. (Eichemberg, M.T. n° 47, 610)	Avocado/ Abacate	A	4
Family: Leeaceae			
<i>Leea rubra</i> Blume (Eichemberg, M.T. n° 519)	---/ Planta de flor vermelha	O	1
Family: Leguminosae-Caesalpinioideae			
<i>Cassia</i> sp (Eichemberg, M.T. n° 339)	---/ Cássia	O	1
<i>Bauhinia forficata</i> Link (Eichemberg, M.T. n° 88)	---/ Unha-de-vaca	M	1
Family: Leguminosae-Mimosoideae			



## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Acacia farnesiana</i> (L.) Willd. (Eichemberg, M.T. n° 468)	---/ Esponjinha	O	1
<i>Calliandra brevipes</i> Benth. (Eichemberg, M.T. n° 156)	---/ Cabelo-de-anjo	O	1
<i>Inga cf vera</i> Willd. (Eichemberg, M.T. n° 107, 679)	---/ Kiwi	A	1
Family: Leguminosae-Papilionoideae			
<i>Cajanus cajan</i> Linn (Eichemberg, M.T. n° 188)	Pigeon pea/ Feijão guandú	A/M	1
<i>Phaseolus lunatus</i> Linn (Eichemberg, M.T. n° 109)	Wild lima bean/ Feijão-de-vagem	A	1
<i>Phaseolus vulgaris</i> Linn (Eichemberg, M.T. n° 561)	Kidney bean/ Feijão	A	1
Family: Liliaceae			
<i>Agapanthus africanus</i> Hoffn. (Eichemberg, M.T. n° 213, 579)	---/ Acapã/Mirilis	O	3
<i>Allium fistulosum</i> Linn (Eichemberg, M.T. n° 583, 611)	Welsh onion/ Cebolinha graúda	A	12
<i>Allium schoenoprasum</i> Linn (Eichemberg, M.T. n° 584)	Chives/ Cebolinha miúda	A	3
<i>Aloe arborescens</i> Mill. (Eichemberg, M.T. n° 577)	Aloe/ Babosa	M	2
<i>Aloe vera</i> Linn (Eichemberg, M.T. n° 599)	Aloe/ Babosa	M	9
<i>Aspidistra elatior</i> Blume (Eichemberg, M.T. n° 370)	Green plant/ Folhagem	O	1
<i>Asparagus densiflorus</i> (Kunth) Jessop "Sprengeri" (Eichemberg, M.T. n° 111, 150)	Bambuzinho/rabo-de-gato	O	10
<i>Asparagus setaceus</i> (Kunth) Jessop (Eichemberg, M.T. n° 184, 369, 516)	---/ Melindro	O	5
<i>Cordyline terminalis</i> Kunth (Eichemberg, M.T. n° 254, 287, 335)	Green plant/ Folhagem	O	5
<i>Dracaena deremensis</i> Engl. (Eichemberg, M.T. n° 165)	Shrub / Arbusto	O	1
<i>Dracaena fragrans</i> Ker Gawl. (Eichemberg, M.T. n° 495, 520)	Shrub/green plant/ Folhagem	O/Outro	2
<i>Dracaena godseffiana</i> Hort. (Eichemberg, M.T. n° 298)	Green plant/ Folhagem	O	1
<i>Dracaena marginata</i> Lam. (Eichemberg, M.T. n° 138, 297)	Shrub/green plant/ Folhagem	O	5
<i>Dracaena sanderiana</i> Hort. Sand. (Eichemberg, M.T. n° 349, 423)	Green plant / Folhagem	O	3
<i>Sansevieria cylindrica</i> Bojer (Eichemberg, M.T. n° 600)	---/ Rabo-de-gato	O	1
<i>Sansevieria trifasciata</i> Hort ex Paine "Hahnii"	---/ Erva-de-São Jorge pequena	O/Outro	6
<i>Sansevieria trifasciata</i> Hort ex Paine "Laurentii"	Espada-de-São Jorge		
Indet. (Eichemberg, M.T. n° 40, 545)	---/ alho-em-folha/alho-de-cheiro	A	4
Family: Loganiaceae			
<i>Buddleia brasiliensis</i> Jacq.exSpreng. (Eichemberg, M.T. n° 556)	---/ Calção-de-véia	M	1
Family: Lythraceae			
<i>Cuphea gracilis</i> H.B. & K. (Eichemberg, M.T. n° 376, 483)	---/ Cerquinha/mosquitinho	O	3
Family: Magnoliaceae			
<i>Magnolia</i> sp (Eichemberg, M.T. n° 239)	Magnolia/ Magnólia	O	1
Family: Malpighiaceae			
<i>Malpighia glabra</i> Linn (Eichemberg, M.T. n° 5)	---/ Acerola	A/M	14
<i>Malpighia ilicifolia</i> Mill. (Eichemberg, M.T. n° 508)	---/ Carvalho/Green plant / Folhagem	O	2
Family: Malvaceae			
<i>Alcea rosea</i> Linn (Eichemberg, M.T. n° 222, 439, 672)	---/ Flor/papoula/malva	O	2
<i>Hibiscus esculentus</i> Linn (Eichemberg, M.T. n° 311)	Okra/ Quiabo	A	3
<i>Hibiscus rosa-sinensis</i> Linn (Eichemberg, M.T. n° 389, 480)	*Red/pink/yellow hibiscus/ Hibisco vermelho/ rosa /amarelo	O	2
<i>Hibiscus syriacus</i> Linn (Eichemberg, M.T. n° 574)	---/ Mimo	O	2
<i>Malva moschata</i> Linn (Eichemberg, M.T. n° 655)	---/ Malva-de-cheiro	O/M	1
<i>Malva parviflora</i> Linn (Eichemberg, M.T. n° 692)	---/ Malva	M	1
Family: Marantaceae			
<i>Calathea medio-picta</i> Jacob-Makoy ex E.Morris (Eichemberg, M.T. n° 367)	Green plant/ Folhagem	O	1
<i>Calathea ornata</i> Körn. (Eichemberg, M.T. n° 534)	Green plant / Folhagem	O	2
<i>Calathea</i> sp (Eichemberg, M.T. n° 166)	Green plant/ Folhagem	O	1
<i>Calathea veitchiana</i> Veitch ex Hook.f. (Eichemberg, M.T. n° 197)	Green plant / Folhagem	O	2
<i>Calathea zebrina</i> Lindl. (Eichemberg, M.T. n° 345)	Green plant / Folhagem	O	1
<i>Ctenanthe oppenheimiana</i> K.Schum. (Eichemberg, M.T. n° 300)	Green plant/ Folhagem	O	1
<i>Ctenanthe setosa</i> Eichl. (Eichemberg, M.T. n° 507)	Green plant / Folhagem	O	1
<i>Maranta arundinacea</i> Linn (Eichemberg, M.T. n° 347, 665)	Green plant/ Folhagem	O	1
Family: Melastomataceae			
<i>Tibouchina mutabilis</i> Cogn. "Nana" (Eichemberg, M.T. n° 499)	---/ Manacá-da-Serra	O	1
<i>Tibouchina semidecandra</i> Cogn. (Eichemberg, M.T. n° 462)	---/ Flor roxa	O	1
Family: Moraceae			
<i>Dorstenia</i> sp (Eichemberg, M.T. n° 554)	---/ Carapiá	M	1
<i>Ficus cf insipida</i> Willd (Eichemberg, M.T. n° 87)	---/ Figueira	Outros	1

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Ficus benjamina</i> Linn (Eichemberg, M.T. n° 354)	Green plant/ Folhagem	O	1
<i>Ficus carica</i> Linn (Eichemberg, M.T. n° 43)	---/ Figo miúdo	A/M	8
<i>Ficus pumila</i> Linn	---/ Unha-de-gato	O	1
<i>Morus nigra</i> Linn (Eichemberg, M.T. n° 50, 116)	Mulberry/ Amora	A/M	2
Indet. (Eichemberg, M.T. n° 685)	---/ Fruta-pão	A	1
Family: Musaceae			
<i>Musa sapientum</i> Linn	*Banana figo/maçã/ouro/prata/ São Domingos	A	4
<i>Musa cavendishii</i> Lamb. Ex Paxton	*Banana nanica/nanicão	A	4
<i>Musa cf parasidiaca</i> Linn	Banana Serra-d'água	A	1
<i>Strelitzia reginae</i> Banks (Eichemberg, M.T. n° 200)	---/ Ave-do-paráiso	O	1
Family: Myrsinaceae			
<i>Ardisia crenata</i> Sims (Eichemberg, M.T. n° 285, 511)	Green plant / Folhagem	O	2
Family: Myrtaceae			
<i>Eugenia brasiliensis</i> Lam. (Eichemberg, M.T. n° 229)	---/ Grumixama	A	1
<i>Eugenia involucrata</i> DC. (Eichemberg, M.T. n° 86)	Cherry of the Rio Grande/ Cereja	A	1
<i>Eugenia pyriformis</i> Camb. (Eichemberg, M.T. n° 101, 524)	---/ Uvalha/ Orvalha/ Uvaia	A	2
<i>Eugenia uniflora</i> Linn (Eichemberg, M.T. n° 8, 103, 598)	---/ Pitanga	A/M	9
<i>Myrciaria cauliflora</i> Berg (Eichemberg, M.T. n° 13, 77, 108)	---/ *Jaboticaba/Sabará/Punhema	A/M	15
<i>Myrciaria glomerata</i> O. Berg (Eichemberg, M.T. n° 4, 44, 131)	Cabelluda or yello jaboticaba/ Cabeludinha	A	3
<i>Psidium guajava</i> Linn (Eichemberg, M.T. n° 51)	Strawberry guava/ Goiaba	A/M	10
<i>Psidium cattleianum</i> Sabine (Eichemberg, M.T. n° 12, 89, 501)	---/ Araçá/goiabinha-do-mato/gabiroba	A	4
<i>Syzygium jambos</i> (L.) Alston (Eichemberg, M.T. n° 132, 529)	Rose apple/ Jambo	A	2
Family: Nyctaginaceae			
<i>Bougainvillea spectabilis</i> Willd. (Eichemberg, M.T. n° 328, 351)	---/ Primavera branca	O	1
<i>Mirabilis jalapa</i> Linn (Eichemberg, M.T. n° 683)	---/ Maravilha/flor	O	2
Family: Ochnaceae			
<i>Ochna serrulata</i> Walp. (Eichemberg, M.T. n° 244)	---/ Brinco-de-mulata	O	1
Family: Oleaceae			
<i>Jasminum azoricum</i> Linn (Eichemberg, M.T. n° 259)	Jasmime/ Jasmim	O	1
<i>Jasminum polyanthum</i> Franch.	Jasmime/ Jasmim	O	1
<i>Jasminum sambac</i> Sol.	---/ Flor/jasmim mosqueta	O	2
<i>Osmanthus fragrans</i> Lour.	---/ Jasmim-do-imperador	O	1
Family: Orchidaceae			
<i>Cypripedium calceolus</i> Linn	---/ Orquídea sapatinho	O	2
<i>Dendrobium nobile</i> Lindl.	---/ Orquídea olho de boneca	O	12
<i>Oncidium varicosum</i> Lindl.	---/ Orquídea chuva de ouro/bailarina	O	6
Family: Oxalidaceae			
<i>Averrhoa carambola</i> Linn (Eichemberg, M.T. n° 52)	Star friut/Carambola	A	2
cf <i>Oxalis</i> sp1	---/ Avena japonesa	O	1
<i>Oxalis</i> sp2	---/ Trevo-de-quatro-folhas	Outros	1
<i>Oxalis</i> sp3 (Eichemberg, M.T. n° 307)	---/ Trevo-roxo	O	2
Family: Passifloraceae			
<i>Passiflora edulis</i> Sims (Eichemberg, M.T. n° 54, 613, 674)	Passionfruit/ Maracujá	A	3
Family: Phytolaccaceae			
<i>Petiveria alliacea</i> Linn (Eichemberg, M.T. n° 112, 225)	---/ Guiné/comigo-ninguém-pode	Out/O/M	4
Family: Piperaceae			
<i>Peperomia obtusifolia</i> A.Dietr. (Eichemberg, M.T. n° 141, 167, 299)	Green plant / Folhagem	O	4
<i>Peperomia sandersii</i> C.DC. (Eichemberg, M.T. n° 149)	Watermelon/ Melancia	O	1
<i>Peperomia scandens</i> Ruiz & Pav. (Eichemberg, M.T. n° 409)	Green plant / Folhagem	O	1
<i>Pothomorphe umbellata</i> Miq. (Eichemberg, M.T. n° 23, 182, 455)	---/ Pariparoba/chapéu-de-couro	M	4
Family: Plantaginaceae			
<i>Plantago major</i> Linn (Eichemberg, M.T. n° 549)	Natural antibiotic/ Antibiótico natural	M	1
Family: Plumbaginaceae			
<i>Plumbago capensis</i> Thunb. (Eichemberg, M.T. n° 330)	---/ Flor azul	O	1
Family: Poaceae			

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Bambusa gracilis</i> Hort. ex C.Rivière (Eichemberg, M.T. n° 274)	Ornamental bamboo/ Bambú ornamental	O	1
<i>Coix lacrima-jobi</i> Linn. (Eichemberg, M.T. n° 557)	---/ Rosário	Outros	1
<i>Cymbopogon citratus</i> (DC.) Stapf. (Eichemberg, M.T. n° 580)	Lemongrass/ Erva cidreira/ Capim cheiroso	M	14
<i>Saccharum officinarum</i> Linn.	Sugar cane/ Cana-de-açúcar	A/M	2
<i>Zea mays</i> Linn	Corn/ Milho	A	1
Family: Polemoniaceae			
<i>Phlox drummondii</i> Hook. (Eichemberg, M.T. n° 675)	Phlox/ Flocos	O	1
Family: Polypodiaceae			
<i>Phymatosorus scolopendria</i> (Burm.f.) Pic. - Serm. (Eichemberg, M.T. n° 153, 233, 476)	Fern/ Samambaia	O	3
<i>Platyserium bifurcatum</i> (Cav.) Chr (Eichemberg, M.T. n° 318, 417)	---/ Chifre-de-veado	O	5
<i>Polypodium decumanum</i> Willd. (Eichemberg, M.T. n° 399, 638)	Fern/ Samambaia	O	3
<i>Polypodium persicifolium</i> Schrad. (Eichemberg, M.T. n° 135, 207, 615, 402 )	Fern/samambaia-de-metro	O	7
<i>Polypodium punctatum</i> (L.) Sw. (Eichemberg, M.T. n° 170, 400)	---/ Chifre-de-veado	O	2
Family: Portulacaceae			
<i>Portulaca grandiflora</i> Hook.	---/ Onze-horas	O	1
<i>Portulaca oleracea</i> Linn (Eichemberg, M.T. n° 352)	---/ Onze-horas amarela/flor amarela	O	2
<i>Portulacaria afra</i> Jacq. (Eichemberg, M.T. n° 404, 506)	Green plant / Folhagem	O	2
Family: Proteaceae			
<i>Macadamia integrifolia</i> Maid. & Bet. (Eichemberg, M.T. n° 526)	---/ Castanha	A	1
Family: Pteridaceae			
<i>Adiantum cf subcordatum</i> Sw. (Eichemberg, M.T. n° 195, 643)	---/ Avencão	O	4
<i>Adiantum raddianum</i> Presl. (Eichemberg, M.T. n° 174, 202)	---/ Avenca	O	11
<i>Pteris cretica</i> Linn (Eichemberg, M.T. n° 407, 631)	Green plant / Folhagem	O	1
<i>Pteris vittata</i> Linn (Eichemberg, M.T. n° 487)	Fern/ Samambaia	O	1
Family: Punicaceae			
<i>Punica granatum</i> Linn (Eichemberg, M.T. n° 6, 16, 316)	Pomegranate/ Romã	A/M	8
Family: Ranunculaceae			
<i>Consolida ajacis</i> Nieuwl. (Eichemberg, M.T. n° 669)	---/ Esporinha	O	1
Family: Rhamnaceae			
<i>Hovenia dulcis</i> Thunb. (Eichemberg, M.T. n° 550)	Japanese grape/ Uva japonesa	A	1
Family: Rosaceae			
<i>Cotoneaster horizontalis</i> Decne. (Eichemberg, M.T. n° 420)	Green plant / Folhagem	O	1
<i>Cydonia oblonga</i> Mill. (Eichemberg, M.T. n° 59)	---/ Marmelo	A	1
<i>Eriobotrya japonica</i> Lindl. (Eichemberg, M.T. n° 73, 136)	Plum/ Ameixa	A	3
<i>Malus</i> sp (Eichemberg, M.T. n° 118)	Green apple/ Maçã verde	A/M	1
<i>Pirus comunis</i> Linn. (Eichemberg, M.T. n° 14, 57, 76)	*Pêra d'água/Pêra chilena	A	6
<i>Prunus persica</i> (L.) Sieb & Zucc. (Eichemberg, M.T. n° 106)	Peach/ Pêssego	A	2
<i>Rosa chinensis</i> Jacq. var. semperflorens Koehne, <i>R. chinensis</i> Jacq var. minima Rhd., R.rouletti Hort. (Eichemberg, M.T. n° 303, 388)	Rosa miúda/rosinha	O	3
<i>Rosa x grandiflora</i> Hort. (Eichemberg, M.T. n° 193, 302)	Rose/ Rosa	O	14
<i>Rosa</i> sp (Eichemberg, M.T. n° 304)	---/ Rosa-da-folha-dupla	O	1
<i>Rosa x wichuraiana</i> Crép. (Eichemberg, M.T. n° 221, 656)	---/ Rosinha-branca-de-penca	O/M	3
<i>Spiraea cantoniensis</i> Lour. (Eichemberg, M.T. n° 467, 569, 622, 629)	---/ Flor-das-noivas/coroa-de-noiva	O	4
<i>Spiraea x vanhouttei</i> Zabel (Eichemberg, M.T. n° 537)	---/ Árvore da flor branca	O	1
Family: Rubiaceae			
<i>Coffea arabica</i> Linn (Eichemberg, M.T. n° 127)	Coffee/ Café	A/M	2
<i>Ixora coccinea</i> Linn (Eichemberg, M.T. n° 249, 372, 474)	---/ Exaura/flor	O	4
<i>Mussaenda alicia</i> Hort. (Eichemberg, M.T. n° 326)	Green plant/ Folhagem	O	1
<i>Mussaenda philippica</i> A.Rich. (Eichemberg, M.T. n° 334)	Green plant/ Folhagem	O	1
<i>Pentas lanceolata</i> Schum. (Eichemberg, M.T. n° 279)	Flower/ Flor	O	1
<i>Serissa fetida</i> Lam. (Eichemberg, M.T. n° 412, 606)	Florzinha/cerca natural	O	2
Family: Rutaceae			
<i>Citrus aurantifolia</i> (Christm.) Swingle (Eichemberg, M.T. n°80)	*Lima/lima-da-Pérsia/Limão galego	A/M	5
<i>Citrus aurantium</i> Linn (Eichemberg, M.T. n° 78)	Sour orange/ Laranja cavalo	A	5
<i>Citrus latifolia</i> Tan. (Eichemberg, M.T. n° 64, 94)	Lime/ Limão taiti	A	6
<i>Citrus limon</i> (L.) Burm.f. (Eichemberg, M.T. n° 9, 95)	Sicilian lime/ Limão siciliano	A/M	4



## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
<i>Citrus limonia</i> (L.) Osbeck (Eichemberg, M.T. n° 63, 62, 96, 544)	Rangpur lime/ Limão cravo/ Limão rosa	A	9
<i>Citrus medica</i> Linn (Eichemberg, M.T. n° 79)	---/ Cidra	A	2
<i>Citrus reticulata</i> Blanco (Eichemberg, M.T. n° 90, 91, 102)	Orange/*Laranja cravo/Laranja pokan/Mixirica/Tangerina miúda	A	9
<i>Citrus sinensis</i> (L.) Osbeck (Eichemberg, M.T. n° 99, 115, 542, 612 )	Orange/*Laranja/ baía/baianinha/cristal/ lima/pêra/ São Sebastião	A	9
<i>Fortunella</i> sp (Eichemberg, M.T. n° 97)	---/ Laranjinha quicã	A	1
<i>Murraya paniculata</i> (L.) Jack (Eichemberg, M.T. n° 46)	---/ Murta/dama-da-noite	O	3
<i>Ruta graveolens</i> Linn (Eichemberg, M.T. n° 67, 642)	---/ Arruda	Outro/M	7
	Family: Sapindaceae		
<i>Litchi chinensis</i> Sonn. (Eichemberg, M.T. n° 100, 145, 500)	---/ Lichia/Uva-itália/Ameixa-do-Pará	A	3
	Family: Sapotaceae		
<i>Chrysophyllum</i> sp (Eichemberg, M.T. n° 644)	African star apple/ Sapoti	O	1
<i>Lucuma caimito</i> (Ruiz & Pav.) Roem & Schult. (Eichemberg, M.T. n° 650)	---/ Abiu	A	1
	Family: Saxifragaceae		
<i>Hydrangea macrophylla</i> Ser. (Eichemberg, M.T. n° 155, 220)	Hydrangea/ Hortência	O	9
	Family: Scrophulariaceae		
<i>Russelia equisetiformis</i> Schldtl. & Cham. (Eichemberg, M.T. n° 250)	---/ Flor vermelha	O	1
	Family: Selaginellaceae		
<i>Selaginella umbrosa</i> Hieron. (Eichemberg, M.T. n° 416)	Green plant / Folhagem	O	1
	Family: Solanaceae		
<i>Brugmansia suaveolens</i> Bercht. & Presl. (Eichemberg, M.T. n° 681)	---/ Trombeta	M/O	3
<i>Brunfelsia uniflora</i> D.Don. (Eichemberg, M.T. n° 17, 469,657)	---/ Manacá	O	4
<i>Capsicum annuum</i> Linn	Red pepper/ Pimentão vermelho	A	1
<i>Capsicum frutescens</i> Linn (Eichemberg, M.T. n° 98, 324, 546)	---/ *Pimenta dedo-de-moça/ malagueta	A	5
<i>Capsicum chinense</i> Jacq.	---/ Pimenta chapéu-de-frade	A	1
<i>Capsicum baccatum</i> Linn (Eichemberg, M.T. n°46)	---/ Pimenta cambari/dedo-de-moça	A	4
<i>Cestrum nocturnum</i> Linn (Eichemberg, M.T. n°391,570)	---/ Dama-da-noite	O	2
<i>Lycopersicon esculentum</i> Mill. (Eichemberg, M.T. n° 186)	Tomato/ Tomate	A	2
<i>Lycopersicon pipinellifolium</i> Mill. (Eichemberg, M.T. n° 228, 310)	Cherry tomato/ Tomate cereja	A	2
<i>Solanum albidum</i> Dun. (Eichemberg, M.T. n° 3, 597, 625)	---/ Jurubeba	M	2
<i>Solanum americanum</i> Mill. (Eichemberg, M.T. n° 260)	---/ Maria-preta	O	1
<i>Solanum pseudocapsicum</i> Linn (Eichemberg, M.T. n° 475)	---/ Bolinha vermelha	O	1
<i>Solanum seafortianum</i> Andr. (Eichemberg, M.T. n° 248)	Vine/ Trepadeira	O	1
	Family: Theaceae		
<i>Camellia japonica</i> Linn (Eichemberg, M.T. n° 246)	---/ Camélia	O	1
	Family: Thelypteridaceae		
<i>Thelyptens dentata</i> (Forssk.) E.P.St.John (Eichemberg, M.T. n° 180)	Fern/ Samambaia	O	1
	Family: Tropaeolaceae		
<i>Tropaeolum majus</i> Linn (Eichemberg, M.T. n° 444)	Flower/Flor	O	2
	Family: Urticaceae		
<i>Parietaria officinalis</i> Linn (Eichemberg, M.T. n° 128, 585)	---/ Palitária	M	2
<i>Pilea microphylla</i> Liebm. (Eichemberg, M.T. n° 422)	Green plant / Folhagem	O	1
<i>Pilea nummularifolia</i> Wedd. (Eichemberg, M.T. n° 234)	---/ Dinheiro-em-penca	O	1
	Family: Verbenaceae		
<i>Clerodendron thomsonae</i> Balf. (Eichemberg, M.T. n° 325)	Brinco-de-princesa	O	1
<i>Clerodendron x speciosum</i> Tiejism. & Binn. (Eichemberg, M.T. n° 333, 659)	Brinco-de-princesa	O	1
<i>Duranta repens</i> Linn "Aurea" (Eichemberg, M.T. n° 371, 451)	Pingo-de-ouro/cerca viva/piriquito	O/Outros	3
<i>Lantana camara</i> Linn (Eichemberg, M.T. n° 317)	Flor/macela	O/M	2
<i>Lippia alba</i> (Mill.) N.E.Br. (Eichemberg, M.T. n° 22, 236)	Melissa	M	4
<i>Petrea subserrata</i> Cham (Eichemberg, M.T. n° 11, 253, 588)	Flor-de-São Miguel	O	2
<i>Stachytarpheta cayennensis</i> (L.P.Rich) Vahl. (Eichemberg, M.T. n° 558, 686)	Gerbão	M	1
	Family: Violaceae		
<i>Viola odorata</i> Linn (Eichemberg, M.T. n° 104, 565)	Violeta	M	2
	Family: Vitaceae		
<i>Cissus verticillata</i> (L.) Nicholson & C.E.Jarvis (Eichemberg, M.T. n° 191)	Insulina vegetal	M	1
<i>Vitis vinifera</i> Linn (Eichemberg, M.T. n° 183, 414, 353)	*Uva preta/Uva branca/Uva rosada	A	5

Continua

## Appendix 1 (Continuação).

Species (Record's number)	Common name – English/ Portuguese	Uses	Nº houses
Family: Zingiberaceae			
<i>Curcuma longa</i> Linn (Eichemberg, M.T. n° 405, 605)	Açafrã	A	1
<i>Zingiber officinale</i> Roscoe (Eichemberg, M.T. n° 21)	Gengibre	A/M	11
Indet	Arbusto	O	1
Indet	Flor	O	1
Indet	Folhagem	O	1
Indet	Folhagem	O	1
indet	Romeu e Julieta/árvore	O/Outros	2

## \*Varieties

O = Ornamental, A = Alimentary, M = Medicinal, Out = Other uses