

**SURVEY, EVALUATION AND DOCUMENTATION OF THE CULTIVATED PLANTS  
IN ASWAN BOTANICAL GARDEN, EGYPT**

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**By**

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**ABSTRACT**

The aim of this study was to survey, evaluate and documenting the cultivated perennial plants in Aswan Botanical Garden, Egypt. A total of (361) species belong to (263) genera and (88) families were collected and identified with regional floras and available checklists. The most common families were Leguminosae followed by Palmae, Moraceae and Bignoniaceae. Leguminosae and Palmae were represented by 46 (12.74 %) and 28 (7.75%) species, respectively, while Moraceae and Bignoniaceae were represented by 20 (5.54%) and 17 (4.71%) species, respectively. Sixteen and 14 species were recorded for Myrtaceae and Euphorbiaceae, respectively and 10 species for each Apocynaceae and Labiatae. Moreover, 6 families were represented by 3 species, 11 families by 2 species while 42 families were represented by one species. The trees, shrubs and perennial herbs were represented by 192 (53.19%), 75 (20.78%) and 29 (8.03%) species, respectively. Climber shrubs, fan palms, and feather palms were represented by 27 (7.48%), 15 (4.16%) and 13 (3.61%) species respectively, while succulents, palm-like and woody grasses were represented by 7 (1.93%), 2 (0.55%) and one (0.28%) species, respectively. However, the cultivated annual herbs were not recorded because of the unstable presence of the observed plants. On the whole, Aswan Botanical Garden can serve as a resource of knowledge and guide for the distribution of the cultivated species. Further floristic and ecological studies are needed to conserve this invaluable area.

**Key words :** *Aswan, botanical garden, cultivated plants, documentation, evaluation, survey.*

**1. INTRODUCTION**

Botanical gardens are public gardens which maintain collections of live plants mainly for scientific research, conservation and education. Record documentations in botanical gardens can provide opportunities to study the effects of human activities on trees and shrubs (Schreuder and Thomas, 1991). Botanical gardens share a fundamental role in the field of conservation, awareness about environmental crisis and loss of genetic diversity. Thus, botanical gardens have a dual mission of conservation and education. The botanical gardens with their living collections, seed banks, trained specialists and scientists provide a guarantee against the loss of species (Anitha, 2010). In recent years, an increased interest in botanical garden studies has been connected to garden restoration and reconstruction projects (Loeb, 1990 and Moe, *et al.* 2006). Trees and shrubs are absolutely fascinating to study, because of their entire life

histories are recorded in their forms. In a sense, the shape of trees and shrubs is analogous to the interaction between genetic endowment and environmental influences (Tredici, 1999).

There is an urgent need to conserve tree species. Around 7,800 tree species are currently recorded as threatened with extinction at the global scale (Oldfield *et al.*, 1998 and Newton and Oldfield, 2008). However, information is lacking on the status and distribution of many suspected rare species of trees and shrubs, so the true figure is likely to be much higher. Trees and shrubs are of exceptional ecological importance, providing habitat for a wide range of other organisms. Many of these trees and shrubs also benefit people, and are associated with social, economic or cultural values. Consequently, their continued decline or loss can have a major impact on human wellbeing (Oldfield and Newton, 2012).

The main roles of Botanical gardens are

summarized as follows: (1) serve as a selected exotic species; (2) serve and preserve the rare and endemic plants; (3) house the germplasm collections of selected economic, ornamental and medicinal plants and their wild progenitors; (4) promote educational programs and research in experimental botany and ornamental horticulture; (5) undertake research in propagation of rare and threatened species and species for energy, food and fodder; (6) generate awareness about the value of trees and shrubs with delightful landscape; (7) organize flower and exchange of viable seed materials; (8) accommodate and study the physiology of species for field trials and cultivation and (9) to act as data bank for information and documentation on holdings in botanical gardens of the country (Heywood, 1983 and Nayar, 1990)

Aswan Botanical Garden is the most famous and oldest islands center in the River Nile and was called Natron Garden which relative to the Nuba people. Its name was changed to the island of radar proportion to the headquarters of the commander of the English Lord Kitchener by the British in Egypt during the war in Sudan in the 19th century AD and then changed to the Island of King during the reign of King Fuad I in 1928, and finally launched by the Ministry of Agriculture in the era of the late President Gamal Abdel Nasser, the plants of the Island or the Botanical Garden. It is located in the River Nile surrounded by water from all sides. Aswan Botanical garden is located on an island in the middle of the River Nile and faced to Aswan city. The total area is 17 feddans, and recently 3 feddans were added to reach the length of the park about 650 meters and a maximum width about 115 meters. The park is divided into 27 basins each has a variety of tropical and subtropical perennial plants (Ahmad and Belal, 1990). The main aim of this study was to survey, evaluate and document the cultivated plants in Aswan Botanical Garden, Egypt. However, the cultivated annual herbs were not recorded because of the unstable presence of the observed plants.

## **2. MATERIALS AND METHODS**

### **2.1. Study area**

#### **2.1.1. Location**

Aswan Botanical Garden is located in the River Nile (24° 05' 32" N & 32° 53' 17" E) and surrounded by water from all sides and faced to Aswan city and located on the other side of Elephantine Island (Fig.1). The total area is

about 20 feddans divided into 27 basins and cultivated with some plants imported from all over the world

#### **2.1.2. Climate**

Aswan is the hottest and driest inhabited city in Egypt . Aswan's climate ranges from mild in the winter to very hot in the summer with absolutely no rain all year. There about 1 or 2 mm of rain every 5 years. The last rain was seven years earlier. In the winter the temperature degrees averaged from 11°C to 25°C. In the summer, the temperature averaged from 25°C to 40°C (Table 1).

#### **2.1.3. Data collection and nomenclature**

Field trips were carried out to collect the studied species from Aswan Botanical Garden in Egypt during years 2012-2013. A total of 361 species represented 263 genera and 88 families were collected. The recorded genera were arranged alphabetically within their families (Table 2). Data collections for investigation and identification criteria of the studied taxa were based on the flora and taxonomic references (Bailey; 1947; Täckholm, 1974; Cronquist, 1981; Morin, 1993; Boulos, 1995, 1999, 2000, 2002, 2005 & 2009 and Mabberly, 1997).

The authors collected about 400 specimens from the studied area. The plant collections were prepared as herbarium sheets. Voucher herbarium specimens kept at the herbarium of the Flora and Phytotaxonomy Researches Department (CAIM), Horticultural Research Institute, Agricultural Research Center, Giza, Egypt. For each species plant numbers, herbarium's specimen number and habit were cited.

#### **2.1.4. Statistical analysis**

Statistical analysis of the studied species was based on excel program to calculate the following criteria: (1) the number and ratios of species per each family, (2) The number of species and number of individual plants /species for each habit (climber shrub, fan palm, feather palm, palm like, perennial herb, shrub, succulent, woody grass and tree).

## **3. RESULTS AND DISCUSSION**

The numbers of cultivated species in Aswan Botanical Garden representing which species have survived and what changes have occurred during the last five decades, provide the basis for examining the long term efficiency and effectiveness of planting and management plans.

The data presented in Table (2) show the recorded cultivated perennial species during

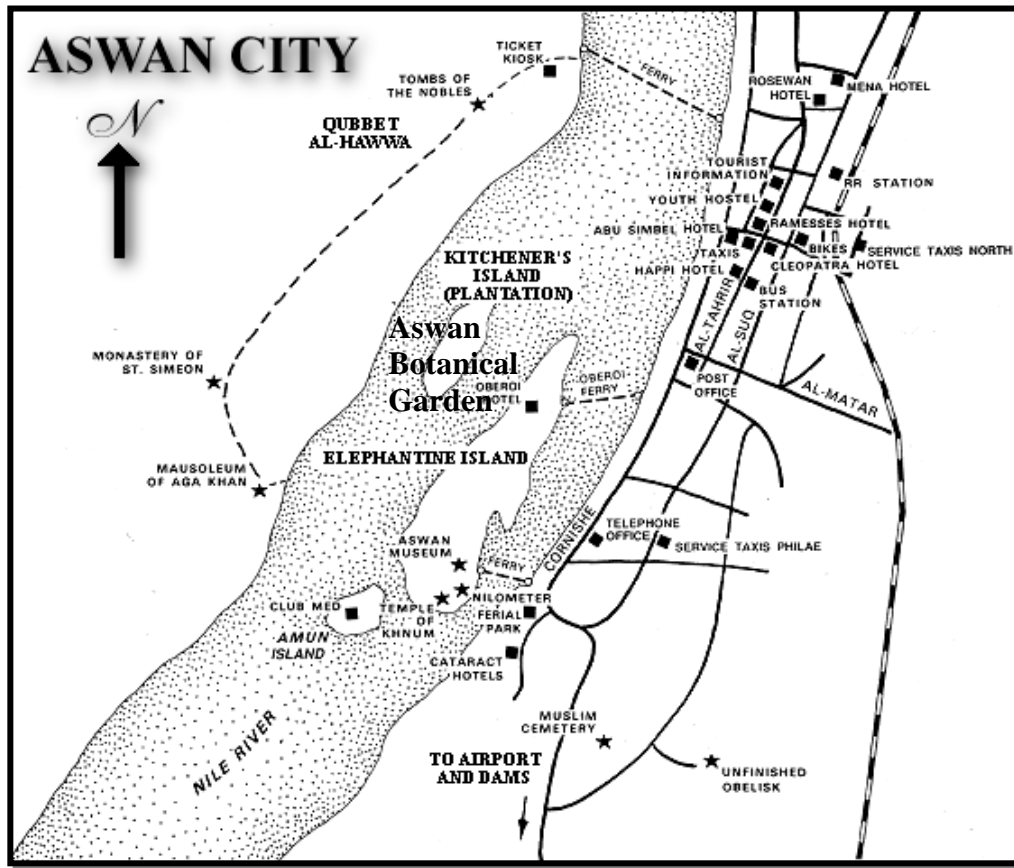


Fig. (1): A map showing the studied area of Aswan Botanical Garden, Egypt

Table (1): Monthly average high and low temperatures (°C) and rainfall (mm) of Aswan region (Based on Egyptian Meteorological Authority, 2012-2013)

Months	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
Average high (°C)	22.9	25.2	29.5	34.9	38.9	41.4	41.1	40.9	39.3	35.9	29.1	24.3	33.62
Average low (°C)	8.7	10.2	13.8	18.9	23.0	25.2	26.0	25.8	24.0	20.6	15.0	10.5	18.48
Rainfall (mm)	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.7	0.0	0.6	0.0	0.0	1.4

this study. A total of (361) species belonging to (263) genera, (88) families were identified and 2065 individual plants were recorded. The most common families were Leguminosae followed by Palmae, Moraceae and Bignoniaceae. Leguminosae and Palmae were represented by 46 (12.74 %) and 28 (7.75%) species, respectively, while Moraceae and Bignoniaceae were represented by 20 (5.54%) and 17 (4.71%) species, respectively.

Moreover, 6 families were represented

by 3species, 11 families by 2 species while 42 families were represented by one species. The feather-palm species (*Sabal blackburnea*); the tree species (*Ficus microcarpa*) and the climber shrub species (*Bougainvillea glabra*) were represented by 200, 100 and 90 individual plants, respectively. Moreover, 84, 40 and 25 species were represented by 2, 3 and 4 individual plants, respectively. On the other hand, 107 species were represented by one individual plant.

**Table (2): List of the recorded cultivated species in Aswan Botanical Garden arranged within their families, number of plants for each species (PN), herbarium specimen's number (HS) and habit. (\* = cultivated only in Aswan Botanical Garden, Egypt).**

N	Family and Taxa	PN	HS	Habit
1	ACANTHACEAE			
1.1.1	<i>Barleria cristata</i> L.	2	29181	shrub
1.2.2	<i>Eranthemum nigrum</i> Linden	15	29061	shrub
1.2.3	<i>Eranthemum pulchellum</i> Andrews	8	29392	per. herb
1.3.4	<i>Justicia adhatoda</i> L.	7	29229	shrub
1.4.5	<i>Sanchezia speciosa</i> Leonard	2	29275	shrub
1.5.6	<i>Thunbergia grandiflora</i> (Roxb. ex Rottler) Roxb.	3	29106	climber shrub
2	AGAVACEAE			
2.6.7	<i>Agave americana</i> L.	10	29856	succulent shrub
2.6.8	<i>Agave angustifolia</i> Haw.	8	29857	succulent shrub
2.7.9	<i>Furcraea foetida</i> (L.) Haw.	2	29892	succulent shrub
2.8.10	<i>Yucca aloifolia</i> L.	2	29896	succulent shrub
3	AMARANTHACEAE			
3.9.11	<i>Alternanthera bettzickiana</i> (Regel) G. Nicholson	2	29466	per. herb
4	ANACARDIACEAE			
4.10.12	<i>Anacardium occidentale</i> L.*	1	29734	tree
4.11.13	<i>Mangifera indica</i> L.	10	29139	tree
4.12.14	<i>Pistacia terebinthus</i> L.	5	29431	tree
4.13.15	<i>Pleiogynium timorense</i> (DC.) Leenh.	5	29117	tree
4.14.16	<i>Spondias cytherea</i> Sonn.	3	29305	tree
5	ANNONACEAE			
5.15.17	<i>Annona muricata</i> L.	1	29282	tree
6	Anthericaceae			
6.16.18	<i>Chlorophytum comosum</i> (Thunb.) Jacques	2	29498	per. herb
7	APOCYNACEAE			
7.17.19	<i>Alstonia scholaris</i> (L.) R. Br.	6	29333	tree
7.18.20	<i>Carissa carandas</i> L.	1	29154	shrub
7.18.21	<i>Carissa macrocarpa</i> (Eckl.) A. DC.	1	29860	shrub
7.19.22	<i>Catharanthus roseus</i> (L.) G. Don	7	29027	per. herb
7.20.23	<i>Mascarenhasia arborescens</i> A. DC.*	2	29103	shrub
7.21.24	<i>Nerium oleander</i> L.	1	29018	shrub
7.22.25	<i>Ochrosia elliptica</i> Labill.	3	29147	shrub
7.23.26	<i>Plumeria rubra</i> L.	20	29152	tree
7.24.27	<i>Tabernaemontana divaricata</i> (L.) R. Br. ex Roem. & Schult.	5	29083	shrub
7.25.28	<i>Thevetia peruviana</i> (Pers.) K. Schum. L.	2	29118	tree
8	ARACEAE			
8.26.29	<i>Epipremnum aureum</i> (Linden & André) G. S. Bunting	1	29861	climber herb
8.27.30	<i>Syngonium podophyllum</i> Schott	1	29862	per. herb
9	ARALIACEAE			
9.28.31	<i>Polyscias guilfoylei</i> (W. Bull) L. H. Bailey	2	29863	shrub
9.29.32	<i>Schefflera arboricola</i> (Hayata) Kanehira	9	29439	shrub

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9.30.33	<i>Sciadophyllum pulchrum</i> Hort. ex Decne. & Planch.	3	29864	shrub
10	ARISTOLOCHIACEAE			
10.31.34	<i>Aristolochia elegans</i> Mast.	4	29458	climber shrub
11	ASCLEPIADACEAE			
11.32.35	<i>Asclepias curassavica</i> L.	5	29455	per. herb
11.33.36	<i>Cryptostegia grandiflora</i> (Roxb.) R. Br.	1	29009	climber shrub
12	ASPARAGACEAE			
12.34.37	<i>Asparagus densiflorus</i> (Kunth) Jessop	2	29328	climber shrub
12.34.38	<i>Asparagus setaceus</i> (Kunth) Jessop	7	29210	climber shrub
12.35.39	<i>Ruscus hypoglossum</i> L.	5	29459	per. herb
13	BERBERIDACEAE			
13.36.40	<i>Nandina domestica</i> Thunb.	2	29866	shrub
14	BIGNONIACEAE			
14.37.41	<i>Amphilophium paniculatum</i> (L.) Kunth	1	29867	climber shrub
14.38.42	<i>Campsis radicans</i> (L.) Seem. ex Bureau	1	29320	climber shrub
14.39.43	<i>Catalpa speciosa</i> (Warder ex Barney) Engelm.*	3	29409	tree
14.40.44	<i>Crescentia cujete</i> L.*	1	29709	tree
14.41.45	<i>Dolichandra unguis-cati</i> (L.) L. G. Lohmann	5	29249	climber shrub
14.42.46	<i>Jacaranda mimosifolia</i> D. Don	6	29260	tree
14.43.47	<i>Kigelia pinnata</i> (Jacq.) DC.	4	29166	tree
14.44.48	<i>Markhamia lutea</i> (Benth.) K. Schum.	1	29089	tree
14.45.49	<i>Podranea ricasoliana</i> (Tanfani) Sprague	1	29733	climber shrub
14.46.50	<i>Pyrostegia venusta</i> (Ker-Gawl.) Miers	2	29125	climber shrub
14.47.51	<i>Radermachera ignea</i> (Kurz) Steenis	2	29178	tree
14.48.52	<i>Spathodea campanulata</i> P. Beauv.	20	29042	tree
14.49.53	<i>Tabebuia argentea</i> (Bureau & K. Schum.) Britton	2	29216	tree
14.49.54	<i>Tabebuia pulcherrima</i> Sandwith	4	29176	shrub
14.49.55	<i>Tabebuia rosea</i> (Bertol.) DC.	5	29277	tree
14.50.56	<i>Tecoma capensis</i> (Thunb.) Lindl.	2	29184	shrub
14.50.57	<i>Tecoma stans</i> (L.) Juss. ex Kunth	20	29088	shrub
15	BIXACEAE			
15.51.58	<i>Bixa orellana</i> L.	6	29016	tree
16	BOMBACACEAE			
16.52.59	<i>Adansonia digitata</i> L.	3	29303	tree
16.53.60	<i>Bombax ceiba</i> L.	7	29223	tree
16.54.61	<i>Ceiba pentandra</i> (L.) Gaertn.	2	29237	tree
16.55.62	<i>Chorisia speciosa</i> A. St.-Hil	9	29183	tree
16.56.63	<i>Pachira aquatica</i> Aubl.	2	29014	tree
17	BORAGINACEAE			
17.57.64	<i>Cordia africana</i> Lam.	2	29135	tree
17.57.65	<i>Cordia myxa</i> L.	9	29163	tree
17.57.66	<i>Cordia sinensis</i> Lam.	2	29309	tree
17.58.67	<i>Ehretia anacua</i> (Terán & Berland.) I. M. Johnst.	1	29150	tree
18	CACTACEAE			

18.59.68	<i>Cereus hildmannianus</i> K. Schum. subsp. <i>uruguayanus</i> (R. Kiesling) N. P. Taylor	1	29895	shrub
18.60.69	<i>Opuntia ficus-indica</i> (L.) Mill.	15	29213	shrub
19	CANNACEAE			
19.61.70	<i>Canna indica</i> L.	10	29094	per. herb
20	CAPPARIDACEAE			
20.62.71	<i>Capparis zeylanica</i> L.*	1	29149	shrub
21	CAPRIFOLIACEAE			
21.63.72	<i>Lonicera sempervirens</i> L.	1	29789	climber shrub
21.64.73	<i>Sambucus nigra</i> L.	1	29887	shrub
22	CARICACEAE			
22.65.74	<i>Carica papaya</i> L.	2	29012	tree
23	CASUARINACEAE			
23.66.75	<i>Casuarina equisetifolia</i> L.	3	29342	tree
24	CELASTRACEAE			
24.67.76	<i>Euonymus japonicus</i> Thunb.	10	29868	per. herb
25	COMBRETACEAE			
25.68.77	<i>Combretum decandrum</i> Roxb.	1	29869	shrub
25.69.78	<i>Conocarpus erectus</i> L.	2	29870	tree
25.70.79	<i>Quisqualis indica</i> L.	4	29284	climber shrub
25.71.80	<i>Terminalia arjuna</i> (Roxb. ex DC.) Wight & Arn.	3	29177	tree
25.71.81	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	1	29369	tree
25.71.82	<i>Terminalia catappa</i> L.	8	29259	tree
25.71.83	<i>Terminalia myriocarpa</i> Van Heurck & Müll. Arg.	1	29218	tree
26	COMMELINACEAE			
26.72.84	<i>Tradescantia pallida</i> (Rose) D. R. Hunt	5	29036	succulent herb
27	COMPOSITAE			
27.73.85	<i>Chrysanthemum morifolium</i> Ramat.	5	29021	per. herb
27.74.86	<i>Gazania rigens</i> (L.) Gaertn.	5	29710	per. herb
27.75.87	<i>Gerbera jamesonii</i> Bolus ex Adlam	5	29073	per. herb
27.76.88	<i>Senecio cineraria</i> DC.	2	29889	per. herb
27.77.89	<i>Sphagneticola trilobata</i> (L.) Pruski	3	29493	per. herb
28	CONVOLVULACEAE			
28.78.90	<i>Argyreia nervosa</i> (Burm. f.) Bojer	5	29077	climber shrub
28.78.91	<i>Argyreia splendens</i> (Hornemann) Sweet	1	29475	climber shrub
28.79.92	<i>Ipomoea tricolor</i> Cav.	2	29191	climber shrub
29	CUPRESSACEAE			
29.80.93	<i>Cupressus sempervirens</i> L.	1	29344	tree
29.81.94	<i>Platycladus orientalis</i> (L.) Franco	9	29020	shrub
30	CYCADACEAE			
30.82.95	<i>Cycas circinalis</i> L.	5	29220	palm-like
30.82.96	<i>Cycas revoluta</i> Thunb.	16	29219	palm-like
31	CYPERACEAE			
31.83.97	<i>Cyperus alternifolius</i> L.	2	29137	per. herb
32	DRACAENACEAE			
32.84.98	<i>Beaucarnea recurvata</i> Lem.	4	29373	tree
32.85.99	<i>Cordyline fruticosa</i> (L.) Goeppert	30	29423	shrub

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32.86.100	<i>Dracaena fragrans</i> (L.) Ker-Gawl.	10	29890	shrub
32.86.101	<i>Dracaena marginata</i> Lam.	10	29891	shrub
32.87.102	<i>Sansevieria cylindrica</i> Bojer ex Hook.	2	29894	succulent shrub
32.87.103	<i>Sansevieria trifasciata</i> Prain	4	29211	succulent herb
33	EBENACEAE			
33.88.104	<i>Diospyros chloroxylon</i> Roxb.*	1	29169	tree
33.88.105	<i>Diospyros discolor</i> Willd.*	1	29151	tree
33.88.106	<i>Diospyros ebenum</i> J. Koenig*	3	29274	tree
33.88.107	<i>Diospyros malabarica</i> (Desr.) Kostel	4	29712	tree
33.88.108	<i>Diospyros mespiliformis</i> Hochst. ex A. DC.*	2	29724	tree
33.88.109	<i>Diospyros montana</i> Rob.*	1	29704	tree
33.89.110	<i>Euclea pseudebenus</i> E. Mey. ex A. DC.*	1	29272	tree
34	EUPHORBIACEAE			
34.90.111	<i>Acalypha wilkesiana</i> Mull. Arg.	2	29025	shrub
34.91.112	<i>Aleurites moluccana</i> (L.) Willd.	2	29385	shrub
34.92.113	<i>Antidesma bunius</i> (L.) Spreng.	4	29296	tree
34.93.114	<i>Breynia disticha</i> J. R. Forst. & G. Forst.	2	29355	shrub
34.94.115	<i>Codiaeum variegatum</i> (L.) Blume	10	29713	shrub
34.95.116	<i>Euphorbia mauritanica</i> L.	1	29872	shrub
34.95.117	<i>Euphorbia milii</i> Des Moul.	3	29071	per. herb
34.95.118	<i>Euphorbia pulcherrima</i> Willd. ex Klotzsch	20	29023	shrub
34.95.119	<i>Euphorbia royleana</i> Boiss.	4	29738	shrub
34.96.120	<i>Hura crepitans</i> L.	1	29268	tree
34.97.121	<i>Jatropha curcas</i> L.	4	29203	shrub
34.98.122	<i>Phyllanthus emblica</i> L.	1	29361	tree
34.99.123	<i>Putranjiva roxburghii</i> Wall.	3	29273	tree
34.100.124	<i>Sapium aucuparium</i> Jacq. *	2	29270	tree
35	FAGACEAE			
35.101.125	<i>Quercus robur</i> L.	1	29751	tree
36	FLACOURTIACEAE			
36.102.126	<i>Dovyalis hebecarpa</i> (Gardner) Warb.	1	29711	shrub
36.103.127	<i>Flacourtia indica</i> (Burm. f.) Merr.	1	29343	shrub
36.103.128	<i>Flacourtia jangomas</i> (Lour.) Raeusch.	1	29258	tree
36.103.129	<i>Flacourtia rukam</i> Zoll. & Moritzi	3	29101	tree
37	GUTTIFERAE			
37.104.130	<i>Calophyllum brasiliense</i> Cambess.	1	29380	tree
37.105.131	<i>Garcinia dulcis</i> (Roxb.) Kurz	2	29188	tree
37.105.132	<i>Garcinia livingstonei</i> T. Anderson	3	29254	tree
38	GRAMINEAE			
38.106.133	<i>Bambusa vulgaris</i> Schrad. ex J. C. Wendl.	2	29881	woody grass
39	HYPOXIDACEAE			
39.107.134	<i>Curculigo capitulata</i> (Lour.) Kuntze	1	29721	per. herb
40	JUGLANDACEAE			
40.108.135	<i>Carya illinoensis</i> (Wangenh.) K. Koch	5	29474	tree
41	LABIATAE			
41.109.136	<i>Caryopteris incana</i> (Thunb. ex Houtt.) Miq.	11	29122	shrub
41.110.137	<i>Clerodendrum indicum</i> (L.) Kuntze	1	29429	shrub
41.110.138	<i>Clerodendrum phlomidis</i> L. f.*	2	29080	shrub
41.110.139	<i>Clerodendrum speciosissimum</i> Van Geert.	10	29153	shrub
41.110.140	<i>Clerodendrum splendens</i> G. Don	7	29084	climber herb

41.111.141	<i>Ocimum basilicum</i> L.	4	29190	shrub
41.112.142	<i>Plectranthus scutellarioides</i> (L.) R. Br.	2	29126	per. herb
41.113.143	<i>Premna odorata</i> Blanco	2	29718	tree
41.114.144	<i>Tectona grandis</i> L. f.	6	29715	tree
41.115.145	<i>Vitex agnus-castus</i> L.	4	29269	tree
42	LAURACEAE			
42.116.146	<i>Cinnamomum camphora</i> (L.) J. Presl	3	29347	tree
42.116.147	<i>Cinnamomum verum</i> J. Presl	1	29238	tree
42.117.148	<i>Persea americana</i> Mill.	4	29233	tree
43	LEGUMINOSAE			
43.118.149	<i>Acacia farnesiana</i> (L.) Willd.	1	29263	shrub
43.118.150	<i>Acacia modesta</i> Wallich	1	29379	tree
43.118.151	<i>Acacia nilotica</i> (L.) Delile subsp. <i>nilotica</i>	19	29068	tree
43.119.152	<i>Adenanthera pavonina</i> L.	1	29877	tree
43.120.153	<i>Albizia lebbek</i> (L.) Benth.	5	29313	tree
43.120.154	<i>Albizia lucidior</i> (Steud.) I. C. Niesen ex H. Hara	1	29192	tree
43.120.155	<i>Albizia procera</i> (Roxb.) Benth.	3	29358	tree
43.120.156	<i>Albizia saman</i> (Jacq.) F. Muell.	1	29878	tree
43.121.157	<i>Bauhinia hookeri</i> F. Muell.	2	29404	tree
43.121.158	<i>Bauhinia retusa</i> Roxb.	2	29201	tree
43.121.159	<i>Bauhinia variegata</i> L.	5	29108	tree
43.122.160	<i>Bolusanthus speciosus</i> (Bolus) Harms	2	29034	shrub
43.123.161	<i>Caesalpinia pulcherrima</i> (L.) Sw.	7	29043	shrub
43.123.162	<i>Caesalpinia sappan</i> L.	2	29170	tree
43.124.163	<i>Cassia fistula</i> L.	6	29267	tree
43.124.164	<i>Cassia javanica</i> L.*	4	29063	tree
43.125.165	<i>Ceratonia siliqua</i> L.	1	29141	tree
43.126.166	<i>Dalbergia lanceolaris</i> L. f. subsp. <i>paniculata</i> (Roxb.) Thoth.	3	29196	tree
43.126.167	<i>Dalbergia sissoo</i> Roxb. ex DC.	2	29171	tree
43.127.168	<i>Delonix regia</i> (Bojer) Raf.	10	29041	tree
43.128.169	<i>Derris elliptica</i> (Wall.) Benth.	4	29874	tree
43.129.170	<i>Enterolobium contortisiliquum</i> (Vell.) Morong.	3	29339	tree
43.130.171	<i>Erythrina variegata</i> L.	2	29283	tree
43.131.172	<i>Haematoxylum campechianum</i> L.	1	29349	tree
43.132.173	<i>Hardwickia binata</i> Roxb.*	4	29041	tree
43.133.174	<i>Hymenaea courbaril</i> L.*	1	29349	tree
43.134.175	<i>Leucaena leucocephala</i> (Lam.) de Wit	5	29286	tree
43.135.176	<i>Mimosa pigra</i> L.	1	29204	shrub
43.136.177	<i>Parkinsonia aculeata</i> L.	1	29390	tree
43.137.178	<i>Peltophorum dubium</i> (Spreng.)Taub. *	1	29386	tree
43.138.179	<i>Pithecellobium dulce</i> (Roxb.) Benth.	2	29494	tree
43.139.180	<i>Pongamia pinnata</i> (L.) Panigrahi	1	29397	tree
43.140.181	<i>Prosopis farcta</i> (Banks & Sol.) J. F. Macbr.	1	29730	shrub
43.141.182	<i>Pterocarpus indicus</i> Willd.	2	29208	tree
43.142.183	<i>Robinia pseudoacacia</i> L.	1	29875	tree
43.143.184	<i>Saraca indica</i> L.	2	29168	tree
43.144.185	<i>Schotia brachypetala</i> Sond.	3	29227	tree
43.145.186	<i>Senna bicapsularis</i> (L.) Roxb.	1	29858	tree
43.145.187	<i>Senna siamea</i> (Lam.) H. S. Irwin & Barneby	2	29185	tree
43.145.188	<i>Senna sophera</i> (L.) Roxb.	4	29356	shrub
43.145.189	<i>Senna spectabilis</i> (DC.) H. S. Irwin & Barneby	1	29873	tree



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43.146.190	<i>Sophora japonica</i> L.	3	29723	tree
43.146.191	<i>Sophora secundiflora</i> (Ortega) Lag. ex DC.	1	29281	tree
43.147.192	<i>Tamarindus indica</i> L.	16	29388	tree
43.148.193	<i>Tipuana tipu</i> (Benth.) Kuntze	1	29445	tree
43.149.194	<i>Wisteria sinensis</i> (Sims) DC.	2	29876	tree
44	LECYTHIDACEAE			
44.150.195	<i>Couropita guianensis</i> Aubl.	1	29160	tree
45	LYTHRACEAE			
45.151.196	<i>Lagerstroemia indica</i> L.	4	29158	tree
45.152.197	<i>Lawsonia inermis</i> L.	7	29085	shrub
46	MAGNOLIACEAE			
46.153.198	<i>Magnolia grandiflora</i> L.	3	29453	tree
47	MALPIGHIACEAE			
47.154.199	<i>Malpighia emarginata</i> DC.	3	29337	shrub
48	MALVACEAE			
48.155.200	<i>Hibiscus rosa-sinensis</i> L.	30	29189	shrub
48.155.201	<i>Hibiscus schizopetalus</i> (Dyer) Hook. f.	3	29038	shrub
48.155.202	<i>Hibiscus tiliaceus</i> L.	1	29346	tree
48.156.203	<i>Malvaviscus arboreus</i> Cav.	9	29182	shrub
48.156.204	<i>Malvaviscus drumondii</i> Torr. & A. Gray	1	29893	shrub
49	MELIACEAE			
49.157.205	<i>Aphanamixis polystachya</i> (Wall.) R. Parker	6	29221	tree
49.158.206	<i>Azadirachta indica</i> A. Juss.	8	29022	tree
49.159.207	<i>Khaya senegalensis</i> (Desr.) A. Juss.	27	29193	tree
49.160.208	<i>Swietenia macrophylla</i> King	2	29370	tree
49.160.209	<i>Swietenia mahagoni</i> (L.) Jacq.	12	29707	tree
50	MORACEAE			
50.161.210	<i>Artocarpus altilis</i> (Parkinson) Fosberg	1	29393	tree
50.162.211	<i>Artocarpus heterophyllus</i> Lam.	22	29008	tree
50.163.212	<i>Ficus altissima</i> Blume	7	29241	tree
50.163.213	<i>Ficus benjamina</i> L.	6	29115	tree
50.163.214	<i>Ficus carica</i> L.	2	29292	tree
50.163.215	<i>Ficus cyathistipula</i> Warb.	2	29434	tree
50.163.216	<i>Ficus elastica</i> Rox. ex Hornem	10	29879	tree
50.163.217	<i>Ficus hirta</i> Vahl.*	2	29299	tree
50.163.218	<i>Ficus hispida</i> L. f.	2	29293	tree
50.163.219	<i>Ficus lutea</i> Vahl	5	29079	tree
50.163.220	<i>Ficus lyrata</i> Warb.	2	29300	tree
50.163.221	<i>Ficus microcarpa</i> L. f.	100	29172	tree
50.163.222	<i>Ficus platyphylla</i> Delile	6	29174	tree
50.163.223	<i>Ficus platypoda</i> (Miq.) A. Cunn. ex Miq.	2	29165	tree
50.163.224	<i>Ficus racemosa</i> L.	2	29093	tree
50.163.225	<i>Ficus religiosa</i> L.	1	29312	tree
50.163.226	<i>Ficus spragueana</i> Mildbr. & Burret	2	29109	tree
50.163.227	<i>Ficus sycomorus</i> L.	7	29091	tree
50.164.228	<i>Morus alba</i> L.	1	29148	tree
50.164.229	<i>Morus macroura</i> Miq.	3	29406	tree
51	MORINGACEAE			
51.165.230	<i>Moringa stenopetala</i> (Baker f.) Cufod.	3	29240	tree
52	MUSACEAE			
52.166.231	<i>Strelitzia nicolai</i> Regel & Koern.	2	29401	shrub
52.166.232	<i>Strelitzia reginae</i> Banks ex Dryander	3	29095	per. herb
53	MYRTACEAE			

53.167.233	<i>Callistemon viminalis</i> (Sol. ex Gaertn.) G. Don	1	29074	tree
53.168.234	<i>Corymbia citriodora</i> (Hook.) K. D. Hill & L. A. S. Johnson	2	29226	tree
53.169.235	<i>Eucalyptus camaldulensis</i> Dehnh.	1	29449	tree
53.170.236	<i>Eugenia supra-axillaris</i> Spring ex Mart.	5	29105	tree
53.170.237	<i>Eugenia uniflora</i> L.	20	29146	shrub
53.171.238	<i>Melaleuca quinquenervia</i> (Cav.) S. T. Blake	1		tree
53.171.239	<i>Melaleuca styphelioides</i> Sm.	2	29736	tree
53.172.240	<i>Myrciaria edulis</i> (Vell.) Skeels	1	29722	shrub
53.173.241	<i>Myrtus communis</i> L.	1	29264	shrub
53.174.242	<i>Pimenta racemosa</i> (Miller) J. Moore	2	29790	tree
53.175.243	<i>Psidium cattleyanum</i> Sabine var. <i>cattleyanum</i>	3	29266	shrub
53.175.244	<i>Psidium guajava</i> L.	10	29332	tree
53.176.245	<i>Syzygium aqueum</i> (Burm. f.) Alston	1	29266	tree
53.176.246	<i>Syzygium cuminii</i> (L.) Skeels	30	29145	tree
53.176.247	<i>Syzygium grande</i> (Wight) Walp.	2	29261	tree
53.176.248	<i>Syzygium samarangense</i> (Blume) Merr. & L. M. Perry	1	29144	tree
54	NEPHROLEPIDACEAE			
54.177.249	<i>Nephrolepis exaltata</i> (L.) Schott	1	29736	per. herb
55	NYCTAGINACEAE			
55.178.250	<i>Bougainvillea glabra</i> Choisy	90	29007	climber shrub
55.178.251	<i>Bougainvillea spectabilis</i> Willd.	30	29029	climber shrub
55.179.252	<i>Mirabilis jalapa</i> L.	2	29478	per. herb
56	OCHNACEAE			
56.180.253	<i>Ochna integerrima</i> (Lour.) Merr.	2	29156	per. herb
57	OLEACEAE			
57.181.254	<i>Fraxinus angustifolia</i> Vahl subsp. <i>oxycarpa</i> (M. Bieb. ex Willd.) Franco & Rocha Afonso *	1	29382	tree
57.182.255	<i>Jasminum azoricum</i> L.	4	29098	climber shrub
57.182.256	<i>Jasminum grandiflorum</i> L.	5	29452	climber shrub
57.182.257	<i>Jasminum sambac</i> (L.) Aiton	40	29015	shrub
57.183.258	<i>Nyctanthes arbor-tristis</i> L.	1	29322	tree
57.184.259	<i>Olea europaea</i> L.	1	29858	tree
58	OXALIDACEAE			
58.185.260	<i>Averrhoa carambola</i> L.	1	29321	tree
59	PALMAE			
59.186.261	<i>Areca triandra</i> Roxb. ex Buch.-Ham.	1	29447	feather- palm
59.187.262	<i>Arenga pinnata</i> (Wurnb.) Merr.	55	29159	feather- palm
59.188.263	<i>Borassus flabellifer</i> L.	7	29340	fan-palm
59.189.264	<i>Brahea armata</i> S. Watson	2	29408	fan-palm
59.190.265	<i>Butia capitata</i> (Mart.) Becc.	3	29412	feather- palm
59.191.266	<i>Calamus rotang</i> L.	1	29222	feather- palm
59.192.267	<i>Caryota mitis</i> L.	3	29113	feather- palm
59.193.268	<i>Chamaerops humilis</i> Lour.	5	29236	feather-palm

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59.194.269	<i>Cocos nucifera</i> L.*	22	29207	feather-palm
59.195.270	<i>Dypsis lutescens</i> (H. Wendl.) Beentje & J. Dransf.	1	29447	feather-palm
59.196.271	<i>Elaeis guineensis</i> Jacq.*	3	29316	feather-palm
59.197.272	<i>Howea belmoreana</i> (C. Moore & F. Muell.) Becc.	9	29387	feather-palm
59.198.273	<i>Hyphaene thebaica</i> L.	1	29323	feather-palm
59.199.274	<i>Latania lontaroides</i> (Gaertn.) H. E. Moore	22	29469	fan-palm
59.200.275	<i>Licuala spinosa</i> Thunb.*	1	29473	fan-palm
59.201.276	<i>Livistona australis</i> (R. Br.) Mart.	1	29435	fan-palm
59.201.277	<i>Livistona carinensis</i> (Chiov.) Dransf. & Uhl.	6	29416	fan-palm
59.201.278	<i>Livistona chinensis</i> (Jacq.) R. Br. ex Mart.	1	29430	fan-palm
59.201.279	<i>Livistona decipiens</i> Becc.	18	29092	fan-palm
59.201.280	<i>Livistona robinsoniana</i> Becc.	13	29413	fan-palm
59.202.281	<i>Phoenix dactylifera</i> L.	3	29419	fan-palm
59.203.282	<i>Rhapis excelsa</i> (Thunb.) A. Henry ex Rehder	50	29225	feather-palm
59.204.283	<i>Roystonea regia</i> (Kunth) O. F. Cook	2	29297	fan-palm
59.205.284	<i>Sabal blackburnea</i> Glazabr.	200	29865	feather-palm
59.205.285	<i>Sabal palmetto</i> (Walter) Lodd. ex Schult. & Schult. f.	3	29341	fan-palm
59.206.286	<i>Thrinax morrisii</i> H.Wendl.	3	29239	fan-palm
59.206.287	<i>Thrinax parviflora</i> Sw.	8	29415	fan-palm
59.207.288	<i>Washingtonia robusta</i> H. Wendl.	11	29471	fan-palm
60	PANDANACEAE			
60.208.289	<i>Pandanus tectorius</i> Parkinson	3	29859	tree
61	PASSIFLORACEAE			
61.209.290	<i>Passiflora edulis</i> Sims	1	29888	climber shrub
62	PITTOSPORACEAE			
62.210.291	<i>Pittosporum tobira</i> (Thunb.) W. T. Aiton	2	29880	per. herb
63	PLUMBAGINACEAE			
63.211.292	<i>Plumbago auriculata</i> Lam.	2	29198	per. herb
64	PODOCARPACEAE			
64.212.293	<i>Podocarpus macrophyllus</i> (Thunb.) D. Don	1	29882	tree
64.212.294	<i>Podocarpus neriifolius</i> D. Don	3	29302	tree
65	POLYGONACEAE			
65.213.295	<i>Antigonon leptopus</i> Hook. & Arn.	4	29078	climber shrub
66	PROTACEAE			
66.214.296	<i>Grevillea robusta</i> A. Cunn. ex R. Br.	2	29883	tree
67	PUNICACEAE			
67.215.297	<i>Punica granatum</i> L. var. <i>nana</i> Pers.	10	29062	shrub
68	RHAMNACEAE			
68.216.298	<i>Ziziphus jujuba</i> Mill.	2	29377	shrub
68.216.299	<i>Ziziphus spina-christi</i> (L.) Desf.	3	29325	tree
69	ROSACEAE			
69.217.300	<i>Eriobotrya japonica</i> (Thunb.) Lindl.	8	29133	tree
69.218.301	<i>Prunus armeniaca</i> Marshall	2	29235	tree
69.218.302	<i>Prunus persica</i> (L.) Batsch	1	29230	tree

69.219.303	<i>Rosa banksiae</i> W. T. Aiton	1	29465	climber shrub
69.219.304	<i>Rosa polyantha</i> Sieb. & Zucc.	1	29037	shrub
70	RUBIACEAE			
70.220.305	<i>Coffea arabica</i> L.	7	29376	shrub
70.221.306	<i>Gardenia latifolia</i> Aiton	1	29202	tree
70.221.307	<i>Gardenia thunbergia</i> L. f.	1	29186	tree
70.222.308	<i>Hamelia patens</i> Jacq.	4	29086	shrub
70.223.309	<i>Ixora pavetta</i> Andrews	1	29375	tree
70.223.310	<i>Ixora undulata</i> Roxb.	3	29253	shrub
71	RUTACEAE			
71.224.311	<i>Casimiroa edulis</i> Llave & Lex.	3	29228	tree
71.225.312	<i>Citrus aurantifolia</i> (Christm.) Swingle	5	29215	tree
71.225.313	<i>Citrus aurantium</i> L.	6	29242	tree
71.225.314	<i>Citrus limetta</i> Risso	1	29234	tree
71.225.315	<i>Citrus reticulata</i> Blanco	3	29391	shrub
71.225.316	<i>Citrus sinensis</i> (L.) Osbeck	13	29157	tree
71.226.317	<i>Glycosmis pentaphylla</i> (Retz.) Corr. Serr.	5	29187	shrub
71.227.318	<i>Murraya paniculata</i> (L.) Jack.	30	29116	shrub
71.228.319	<i>Ruta graveolens</i> L.	1	29732	per. herb
72	SALICACEAE			
72.229.320	<i>Salix subserrata</i> Willd.	1	29352	shrub
72.229.321	<i>Salix tetrasperma</i> Roxb.	4	29403	tree
73	SAPINDACEAE			
73.230.322	<i>Alectryon tomentosus</i> (F. Muell.) Radlk.	11	29044	tree
73.231.323	<i>Dimocarpus longan</i> Lour.	2	29257	tree
73.232.324	<i>Dodonaea viscosa</i> Jacq.	2	29123	shrub
73.233.325	<i>Harpullia pendula</i> Planch. ex F. Muell.	1	29143	tree
73.234.326	<i>Koelreuteria paniculata</i> Laxm.	2	29884	tree
74	SAPOTACEAE			
74.235.327	<i>Chrysophyllum oliviforme</i> L.	4	29090	tree
74.236.328	<i>Madhuca longifolia</i> (L.) J. F. Macbr.	6	29289	tree
74.237.329	<i>Manilkara hexandra</i> (Roxb.) Dubard	1	29251	tree
74.237.330	<i>Manilkara zapota</i> (L.) P. Royen	2	29155	tree
74.238.331	<i>Mimusops caffra</i> E. Mey. ex A. DC.	1	29450	tree
74.238.332	<i>Mimusops elengi</i> L.	4	29179	tree
74.239.333	<i>Sideroxylon lycioides</i> L.	1	29164	tree
75	SCROPHULARIACEAE			
75.240.334	<i>Paulownia tomentosa</i> (Thunb.) Steud.	5	29255	tree
76	SIMAROUBACEAE			
76.241.335	<i>Ailanthus altissima</i> (Mill.) Swingle	2	29885	tree
77	SOLANACEAE			
77.242.336	<i>Capsicum frutescens</i> L.	3	29336	shrub
77.243.337	<i>Cestrum diurnum</i> L.	5	29075	shrub
77.243.338	<i>Cestrum nocturnum</i> L.	1	29456	shrub
77.244.339	<i>Solanum rantonnetii</i> Carrière	1	29107	shrub
78	STERCULIACEAE			
78.245.340	<i>Brachychiton populneus</i> (Schott & Endl.) R. Br.	1	29353	tree
78.245.341	<i>Brachychiton rupestris</i> (T. Mitch. ex Lindl.) K. Schum.	11	29886	tree
78.246.342	<i>Firmiana simplex</i> (L.) W. Wight	1	29365	tree
78.247.343	<i>Guazuma ulmifolia</i> Lam.	1	29161	tree
78.248.344	<i>Pterospermum acerifolium</i> (L.) Willd.	2	29410	tree

78.249.345	<i>Pterygota alata</i> (Roxb.) R. Br.	2	29705	tree
78.250.346	<i>Sterculia foetida</i> L.	1	29396	tree
78.250.347	<i>Sterculia urens</i> Roxb.*	1	29362	tree
79	STRYCHNACEAE			
79.251.348	<i>Strychnos nux-vomica</i> L.	8	29132	tree
80	STYRACACEAE			
80.252.349	<i>Styrax officinalis</i> L.	1	29245	shrub
81	TAMARICACEAE			
81.253.350	<i>Tamarix nilotica</i> (Ehrenb.) Bunge	2	29069	tree
82	TAXODIACEAE			
82.254.351	<i>Taxodium distichum</i> (L.) Rich.	2	29871	tree
83	TILIACEAE			
83.255.352	<i>Grewia asiatica</i> L.	2	29365	tree
84	ULMACEAE			
84.256.353	<i>Celtis occidentalis</i> L.	1	29728	tree
85	VERBENACEAE			
85.257.354	<i>Citharexylum spinosum</i> L.	2	29331	tree
85.258.355	<i>Duranta erecta</i> L.	2	29197	shrub
85.259.356	<i>Lantana camara</i> L.	2	29031	shrub
85.259.357	<i>Lantana montevidensis</i> (Spreng.) Briq.	2	29719	per herb
85.260.358	<i>Petrea volubilis</i> L.	7	29194	climber shrub
86	VITACEAE			
86.261.359	<i>Vitis vinifera</i> L.	2	29026	climber shrub
87	ZINGIBERACEAE			
87.262.360	<i>Alpinia zerumbet</i> (Pers.) B. L. Burtt & R. M. Sm.	4	29142	per. herb
88	ZYGOPHYLLACEAE			
88.263.361	<i>Balanites aegyptiaca</i> (L.) Delile	1	29311	tree
<b>Total</b>		<b>2065</b>		

On the whole, the trees, shrubs and perennial herbs are represented by 192, 75 and 29 species, respectively. Climber shrubs, fan, and feather palms are represented by 27, 15 and 13 species, respectively. Succulents plants (*Agave americana*; *Agave angustifolia*; *Furcraea foetida*; *Sansevieria cylindrica*; *Sansevieria trifasciata*; *Tradescantia pallida* and *Yucca aloifolia*); palm-like (*Cycas circinalis* and *Cycas revoluta*); woody grasses (*Bambusa vulgaris*) are represented by 7, 2 and one species, respectively.

The data represented in Table (3), show that, 24 species are cultivated only in Aswan Botanical Garden (Ahmad and Belal, 1990 and Khalifa and Loutfy, 2006). Ten tree species are

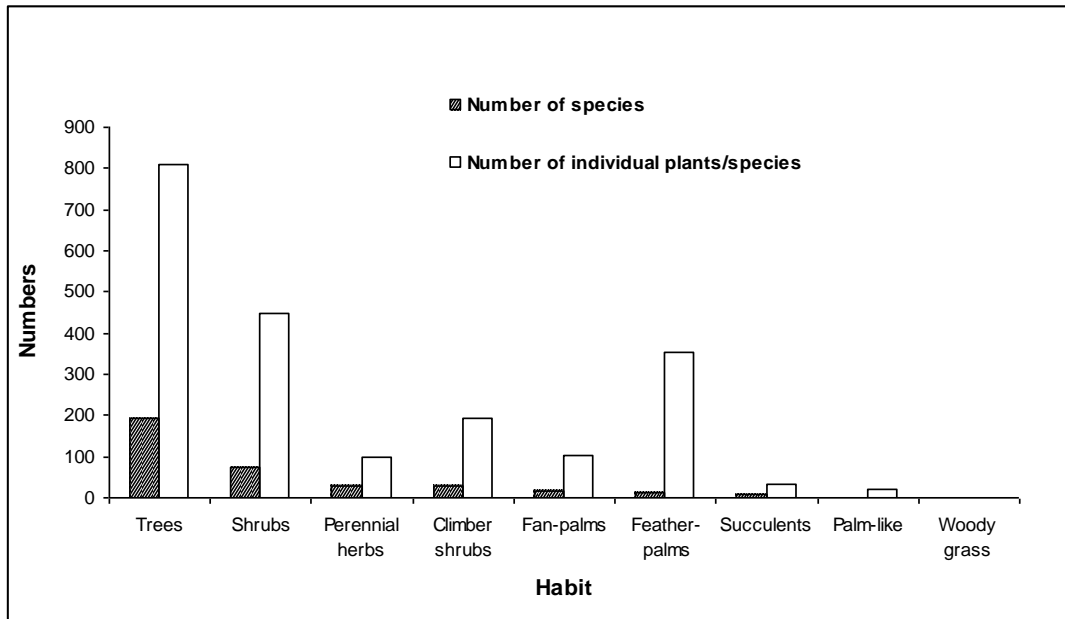
represented by one individual plant e.g. *Anacardium occidentale*, *Crescentia cujete*, *Diospyros chloroxylon*, *Diospyros discolor*, *Diospyros montana*, *Euclea pseudebenus*, *Fraxinus angustifolia* subsp. *oxycarpa*, *Hymenaea courbaril*, *Peltophorum dubium* and *Sterculia urens*. The feather-palm species: *Cocos nucifera*, *Elaeis guineensis* and *Dypsis lutescens* are represented by 22, 3 and one individual plant, respectively. The shrub species: *Clerodendrum phlomidis*, *Mascarenhasia arborescens* and *Capparis zeylanica* are represented by 2, 2 and one individual plants, respectively. The fan species: *Licuala spinosa* is represented by only one individual plant.

**Table (3): List of species, their plant numbers (PN) and habit which are cultivated only in Aswan Botanical Garden, Egypt.**

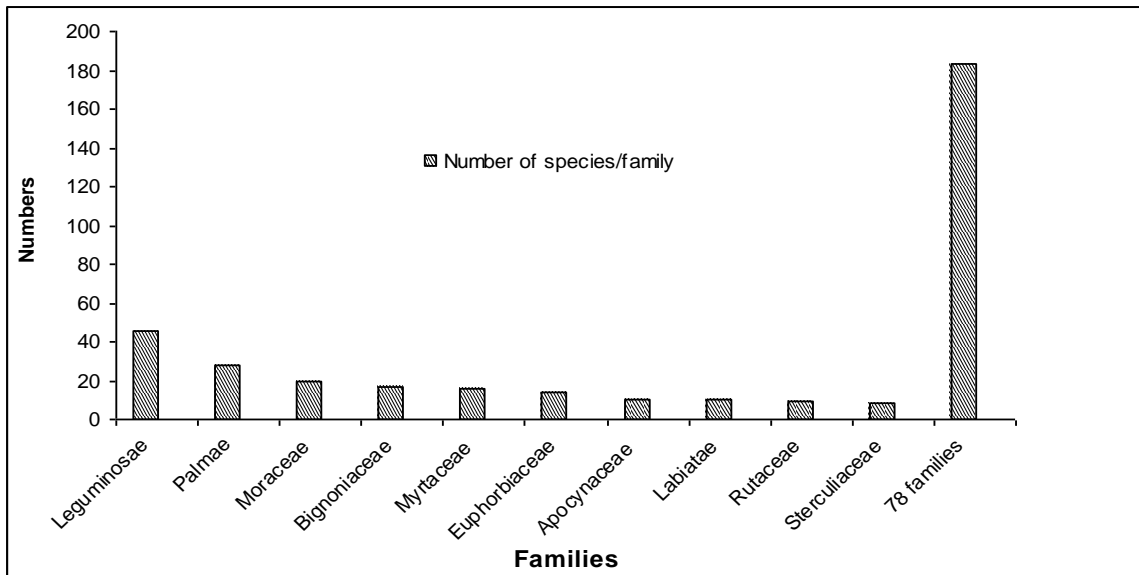
	Species	PN	Habit
1	<i>Anacardium occidentale</i> L.	1	tree
2	<i>Capparis zeylanica</i> L.	1	shrub
3	<i>Cassia javanica</i> L.	4	tree
4	<i>Catalpa speciosa</i> (Warder) Engelm.	3	tree
5	<i>Clerodendrum phlomidis</i> L.f.	2	shrub
6	<i>Cocos nucifera</i> L.	22	feather-palm
7	<i>Crescentia cujete</i> L.	1	tree
8	<i>Diospyros chloroxylon</i> Roxb.	1	tree
9	<i>Diospyros discolor</i> Willd.	1	tree
10	<i>Diospyros ebenum</i> J.Koenig	3	tree
11	<i>Diospyros mespiliformis</i> Hochst.ex A. DC.	2	tree
12	<i>Diospyros montana</i> Rob.	1	tree
13	<i>Dypsis lutescens</i> (H. Wendl.) Beentje & J. Dransf.	1	feather-palm
14	<i>Elaeis guineensis</i> Jacq.	3	feather-palm
15	<i>Euclea pseudebenus</i> E.Mey. ex A. DC.	1	tree
16	<i>Ficus hirta</i> Vahl.	2	tree
17	<i>Fraxinus angustifolia</i> Vahl subsp. <i>oxycarpa</i> (M. Bieb. ex Willd.) Franco & Rocha Afonso	1	tree
18	<i>Hardwickia binata</i> Roxb.	4	tree
19	<i>Hymenaea courbaril</i> L.	1	tree
20	<i>Licuala spinosa</i> Thunb	1	fan
21	<i>Mascarenhasia arborescens</i> A. DC.	2	shrub
22	<i>Peltophorum dubium</i> (Spreng.)Taub.	1	tree
23	<i>Sapium aucuparium</i> Jacq.	2	tree
24	<i>Sterculia urens</i> Roxb.	1	tree

The data represented in Fig. (2) show the number of species/habit and the number of individual plant /species for each habit. Trees, shrubs and perennials herbs are represented by (192), (75) & (28) species, and (810), (450) & (98) plant/species, respectively. Similarly, climber shrubs, fan-palms and feather-palms are represented by (27), (16) & (13) species and (194), (103) & (354) plants/species, respectively. On the other hand, number of species/habit and the number of individual plant /species in woody grass, palm-like and succulents are represented by (1), (2) & (7) and (2), (21) and (33), respectively. The data represented in Fig. (3 & 4) show the total numbers and ratios of species /

each family. Leguminosae, Palmae, Moraceae, Bignoniaceae and Myrtaceae, are represented by 46 (12.47%), 28 (7.76%), 20 (5.54%), 17 (7.71%) and 16 (4.43%), respectively. Moreover, Euphorbiaceae, Apocynaceae, Labiatae, Rutaceae and Sterculiaceae are represented by 14 (3.88%), 10 (2.77%), 9 (2.49%) and 8 (2.22%), respectively. On the other hand, 78 families are represented by 183 species (50.69%). Generally, Aswan Botanical Garden can serve as a resource of knowledge and guide for the distribution of cultivated species. The intense human disturbance in botanical gardens has caused a decline in the population of the cultivated plants.



**Fig. (2):** Number of species and number of individual plant / species for each habit type in Aswan Botanical Garden.



**Fig. (3):** Numbers of species / each family in Aswan Botanical Garden.

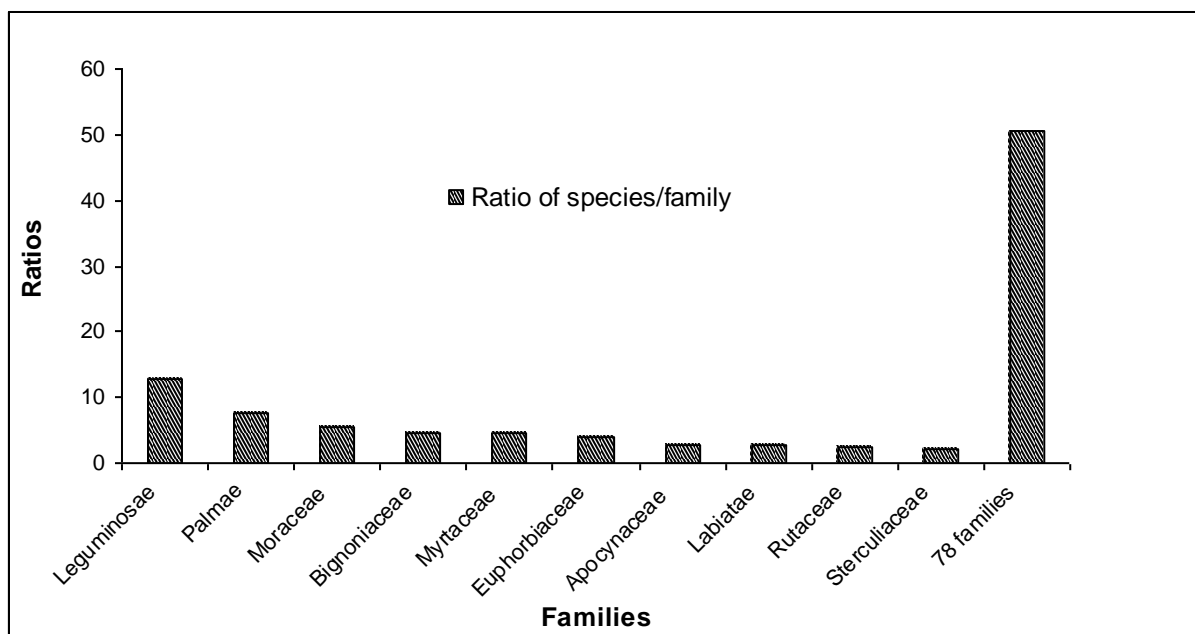


Fig. (4): Ratios of species / each family in Aswan Botanical Garden.

#### In conclusion

The present study supports the research into the development of new cultivated species from endemic and naturalized species is considered. Future surveys or plant checklist updates to evaluate alien plant threats and the status of trees and shrubs should include several visits to Aswan Botanical Garden annually. Recent plantings should be added significantly to the number of species in the botanical garden. The connections between plant use and conservation are also important, especially as the authors noted that neither the local inhabitants nor the government is addressing the potential loss of valuable species in Aswan Botanical Garden.

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### حصر وتقييم وتوثيق النباتات المزروعة في الحديقة النباتية بأسوان - مصر

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#### ملخص

اجريت هذه الدراسة بهدف حصر وتقييم وتوثيق للنباتات المعمرة المزروعة فى الحديقة النباتية بأسوان ، جمهورية مصر العربية. تم جمع وتعريف (٣٦١) نوع نباتى و(٢٦٣) جنس نباتى تتبع (٨٨) فصيلة نباتية وذلك طبقا للمراجع المتاحة. وقد سجلت الفصيلة البقولية أعلى نسبة من الأنواع النبات(١٢,٧٤ % ) يليها الفصيلة النخيلية (٧,٧٥%) والفصيلة التوتية (٥,٥٤%) ثم الفصيلة البجنونية (٤,٧١%). تم تسجيل ١٦ نوعا نباتيا للفصيلة المرسينية (الكافورية) ، ١٤ نوعا للفصيلة اللبينية و ١٠ انواع لكل من الفصيلة الدفلية والفصيلة الشفوية . بالاضافة إلى ٦ فصائل تمثلت كل فصيلة بثلاثة انواع و ١١ فصيلة تمثلت كل منها بنوعان فقط ، بينما تمثلت ٤٢ فصيلة نباتية بنوع نباتى واحد فقط. تمثلت كل من الاشجار ، الشجيرات والعشبيات المعمرة بالنسب التالية من الانواع (٥٣,١٩%) ، (٢٠,٧٩%) و(٨,٠٣%) على التوالى. تمثلت الشجيرات المتسلقة ، النخيل المروحي و النخيل الريشى بالنسب التالية من الانواع (٧,٤٨%) ، (٤,١٦%) و (٣,٦١%) على التوالى ، بينما تمثلت كل من العصيريات ، اشباه النخيل و النجيليات الخشبية بالنسب التالية من الانواع (١,٩٣%) ، (٠,٥٥%) و(٠,٢٨%) على التوالى. لم يتم تسجيل الاعشاب المزروعة الحولية على اية حال تعتبر الحديقة النباتية باسوان مصدرا ودليلا للنباتات المزروعة. تحتاح هذه المنطقة القيمة الى المزيد من دراسات الفلورة والبيئة للمحافظة عليها.

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