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FURTHER NOTES ON INTRODUCED PLANTS IN SIAM. By Phya Winit Wanandorn.

In continuation of the accounts of introduced plants in Siam which have appeared in the Natural History Supplement¹, I herewith present notes on a number of additional species.

It may be of interest to record that the systematic cultivation of exotic orchids in Siam may be said to have been initiated by Mr. Henry Alabaster during his tenure as superintendent of the Royal (the present Saranrom) Garden between fifty and sixty years ago.

In Alabaster's time the first Siamese to take special interest in orchid-growing was H. S. H. Prince Bhakdi-nart; next was H. R. H. Prince Tiwakorn, but it is not certain whether he began the subject in Alabaster's time or just after it. Since then many orchid-growing amateurs have cropped up, and among those who commenced the hobby above forty years ago may be mentioned Prince Prawm and Phya Pojana Pricha. Among the pioneers Prince Tiwakorn, however, deserves special mention, he being the first in this country to practise the hybridising of orchids, a result of which has lived to the present day as a token of his efforts in the line of scientific orchid-culture.

It was Alabaster also who first took up the cultivation of

¹ See Vol. VIII, No. 3, p. 197, 1931; Vol. VIII, No. 4, p. 334, 1932; Vol. IX, No. 1, p. 89, 1933.

native orchids in Siam. In this connection it may be mentioned that the Siamese name *chang* (IN) which literally means *elephant*, as now applied to *Saccolabium giganteum*, was originated by him, and the specific name of the orchid is said to have struck him with the idea for the choice of the Siamese name.

Allamanda violacea Gardn. บานบริมวง.

This purple-flowered Allamanda, native of Brazil, is said to have come to Bangkok about thirty years ago. It is not known whence or by whom it was introduced.

Also known by the above Siamese name are two other purple-flowered garden climbers, *Cryptostegia grandiflora* and a *Bignonia*, neither of which, however, has the hairy branches and leaves of the *Allamanda*.

Arachnis moschifera Bl. (Renanthera Arachnitis Lindl.) Spider Orchid.

There are at present to be seen in Bangkok not many specimens of this climbing orchid, whose flower looks something like a huge spider and emits a pleasant scent of musk from the tip of its dorsal sepal. It is not certain when the species first came to Bangkok; but a plant was brought from Penang to Peninsular Siam by Phya Charoon, then Governor of Lang Suan, about thirty-five years ago. A. moschifera is a native of Java, Borneo, and the Malay Peninsula.

Araucaria Bidwillii Hook. Bunya-bunya Pine. สนหนาม (son nam).

The son nam, which is probably the above Australian species, was introduced, it is said, by Mr. Roebelens about forty years ago, probably from Java. The Siamese name, which is literally *prickly conifer*, has been given apparently on account of the pungent character of the tips of the glossy dark-green leaves of the tree.

Araucaria Cookii R. Br. สนนัตว์.

Some miniature potted specimens of this very ornamental conifer of New Caledonia were imported from Singapore by Nai Sri,

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a plant dealer at Silom, towards the end of 1931. Similar plants, it is said, were also introduced to Bangkok, from Europe, by Roebelens about 1909. Many trees, apparently of this species, are now to be seen in front of the Abhisek Throne Hall; these are said to have been brought from Europe by King Chulalongkorn in 1907, when returning from his second trip to that continent.

Anacardium occidentale Linn. Cashew-nut. มะม่งหิมพานต์.

The cashew-nut tree, native of South America, is common in Peninsular Siam; elsewhere in Siam it is rather rare, being usually grown only in Buddhist monastery grounds.

At Lampang, so far as known, the cashew-nut tree was first brought by a Burmese monk, from Moulmein (Lower Burma) via Me Sot, and was planted at a monastery, Wat Srichum, about 1890. At Chiengmai the species was probably introduced earlier, also from Burma and by a similar agency. The common local names for the cashew-nut tree in Northern Siam are mamuang singhol (HELINATION) and mamuang langka (HELINATION), both being direct Siamese renderings of the Burmese name thiho thayet, meaning Ceylon mango. From this Burmese name it is apparent that from Ceylon the cashewnut tree was introduced to Burma. In the latter country it must have been for a long time, for, about sixty years ago, the species had already run wild to such an extent as to appear a native component of the beach flora of certain regions, to judge from what Kurz¹ has recorded of its occurence there.

At Bangkok, the cashew-nut tree is rarely cultivated and is usually known as mamuang himapan (มะม่งหืมพบนต์), which is literally Himalayan mango. The tree, however, is believed to have probably been introduced directly from Ceylon by a Buddhist missionary in the second or third reign of the present dynasty (1809-1851); the Bangkok name just mentioned, as well as another one, mamuang mai ru hao (มะม่วงไม่รู้ หาว), being purely of legendary character.

In Peninsular Siam the cashew-nut tree is often cultivated,

¹ Kurz, S., Forest Flora of British Burma, 1877.

and grows spontaneously on the sea beach. On the western coast, at least at Ranawng, the tree is also called *mamuang singhol* (Ceylon mango). Elsewhere there are several names applied to the tree, but all of them are either descriptive of the peculiarity of the fruit or of no historical significance. Possibly the cashew-nut tree on the western section of the Siamese Peninsula was derived directly from Ceylon, or more probably from the adjoining provinces of Lower Burma, where the tree had become naturalised; while in the southern section it was likely supplied from the neighbouring Malay States, where, according to Ridley¹, the species, which appears to have been introduced from South America in the XVIth century, had run wild.

From its abundance in a naturalised state it would seem probable that the cashew-nut tree appeared in the Peninsula before anywhere else in Siam; but as to when and how it really came there, perhaps persons residing in that part of the country may be able to ascertain and report.

Billbergia thyrsoides Mart. ausenon.

This species, as well as an allied plant, Aregelia spectabilis Mez, ปทนกมกัว, are known to have been in Bangkok for about twenty years. Both are natives of Brazil.

Bixa orellana Linn. Arnotto. คำแสด.

A native of Tropical America, the arnotto tree, whose seed yields the well-known arnotto dye, has been long cultivated in this country. Both the white- and the pink-flowered forms are to be met with. Since the introduction of the aniline dyes the tree has become scarce in the more civilised localities, being still frequently found cultivated and semi-wild only in out-of-the-way places. Some believe that it probably came into this country before the Bangkok era, that is, more than a century and a half ago. Of course economic plants spread quickly far and wide through the agency of man; but having seen it very common and perfectly at home in many of the remotest places the writer, however, cannot help feeling that the arnotto tree might have been in existence in this country for centuries.

¹ Ridley, H. N., Flora of the Malay Peninsula.

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Buddleia sp. หางการอกเขามร.

On account of its delightfully fragrant white flowers which are produced in profusion all the year round, Koon Ying Wong Srididhep of Bangkok, in the early part of 1931, brought a cutting of this shrub from Batambong (Cambodia), where it was being cultivated under the local name of *nawn* (NUDU). The original home of the species is probably not Cambodia or elsewhere in the Indochinese Peninsula.

Bulbophyllum Fletcherianum Rolf.

This is the only orchid seen in this country that has extraordinarily thick big fleshy leaves, which hang like huge strops, measuring over three feet long and six inches broad. It is a native of Dutch New Guinea and was imported from Singapore by Nai Wong Hin, a plant dealer of Bangkok, in September, 1932.

Canna spp. Cannas. พุทธภัาษา.

The garden cannas, then of a few kinds, were, it is said, first imported into this country from Europe by S. Roebelens, the wellknown German plant collector in Siam, about thirty-five years ago. Previous to that time only the native Indian shot (*C. indica* L.) was to be seen here. The garden cannas, as now cultivated, comprise many species, varieties and hybrids. With the exception of the Indian shot just mentioned, all *Canna* species are exclusively American.

Cattleya spp.

The cattleyas were among the first orchids introduced for cultivation in Siam. Following are some of the species (all of Tropical America) of the earlier introduction which are still in cultivation in Bangkok to-day :—

- C. amethystoglossa Lindl. & Reichb. f. Introduced by Alabaster 50-60 years ago.
- C. Bowringiana Veitch. Introduced by Prince Tiwakorn, through a European in the firm of B. Grimm & Co., about 35 years ago.

- C. Gaskelliana Reichb. f. Introduced by Alabaster 50-60 years ago.
- C. Hardyana (a natural hybrid). Introduced by Prince Prawm and Phya Pojana Pricha, from Europe, about 30 years ago.
- C. intermedia Graham. Introduced by Alabaster 50-60 years ago.

С.	labiata Lindl.	Ditto.
С.	Skinneri Lindl.	Ditto.
C.	Triange Lindl. & Reichb. f.	Ditto.

Chloranthus sp. ผ่อยฝา (foi fa), เกิดเมือง (kait muang).

Foi fa, which is probably C. inconspicuus Swartz, is occasionally cultivated for its minute white fragrant flowers which are used for scenting tea leaves. The species is said to have been introduced by the Chinese, from China, where it is probably a native, more than 50 (some say about 80-90) years ago.

What has been long cultivated here under the Siamese name of *niam* (i upp) for its fragrant leaves, which are employed for scenting betel lime, is also a kind of *Chloranthus*. This is probably an exotic species also. In Siam there are a few indigenous chloranthi: one of these, *C. officinalis* Bl., which is also frequently cultivated for its fragrant flowers, is known in Northern Siam as *hawm kai* (MDN ln).

Chrysanthemum spp. *Chrysanthemums*. เข็ญจมาศ (benjamas).

The garden chrysanthemums of the big-flowered varieties are said to have been first brought to Siam by the Chinese some time during the Ayuthia period (1350-1767 A. D.), probably at least two or three centuries ago. The small-flowered kinds, however, are said to have been introduced only 60 or 70 years ago, also by the Chinese. From the Siamese name *benjamas* (benja = five, mas = gold) it would appear that only the yellow-flowered chrysanthemums were the first brought into this country. The garden chrysanthemums are supposed to be derivatives of two original species, *C. indicum* L. and *C. sinense* Sabine, both natives of China and Japan.

Chysis bractescens Lindl.

There is a specimen of this Mexican orchid in the collection of Phya Pojana Pricha of Bangkok. It is not certainly known when this orchid was introduced, but it is said to have been presented to the late Queen Sai Sawali by a European at least six or seven years ago.

Cinchona succirubra Pav. ดินิน.

This quinine tree of South America is said to have been introduced to this country, at least to Bangkok, the first time fiftytwo or fifty-three years ago, probably from Java. This introduction, however, did not live any length of time.

Clerodendron fragrans Cav. นามแป้ม.

This shrub of China, Sumatra and Java, with sweet flowers and a charming Siamese name, is frequently cultivated and runs wild in this country. The species must have been in Siam many centuries, as it was already well known in the reign of the Ayuthia King Trilokanart (1448-1488), its name being familiarly mentioned in the Siamese literature of that period. The local people naturally regard the plant as native, and those who have seen much of its occurence in this country will not perhaps feel inclined to do otherwise.

Crossandra undulaefolia Salisb. (C. infundibuliformis Nees). อัภายสิปูน.

This most attractive flowering shrub, or rather sub-shrub, native of Southern India and Ceylon, is said to have been in Bangkok for about ten years. Nothing further is known about the plant.

Cyperus alternifolius Linn. Umbrella Plant. กกลรักา.

A native of Madagascar, this sedge, usually of the smaller kind, is occasionally seen cultivated in aquaria and other wet situations in this country. It is believed to have been introduced during the third reign of the present dynasty (1809-1851), probably from Ceylon, as the Siamese name suggests.

Cryptostegia floribunda R. Br. ยานบูริม่วง.

This purple-flowered climbing shrub of rampant growth and

glossy dark-green foliage is pretty common in Bangkok. It is a plant of Tropical Africa, and is said to have come to Siam about thirty years ago, at the time *Allamanda violacea* appeared.

Dahlia variabilis Desf. Dahlia. ini.

This beautiful flowering plant of Mexico has been known in this country for a long time, perhaps over a century. It is believed to have been first introduced from China. Seeds and tubers are being regularly imported, mostly from Europe, to keep the stock going.

Dendrobium Phalaenopsis Fitzgerald.

This Australian orchid, together with its variety Schroederianum, was imported from Europe by Phya Pojana Pricha about thirty years ago. Besides this variety there are a few others now in cultivation in Bangkok.

Dendrobium speciosum Sm.

A native of Australia, this orchid, or rather a variety of it, which very closely resembles *D. chrysotoxum* ($\frac{1}{12}$ DIM), has been introduced to Siam several times, but the only specimen known to have lived to flower is that imported from Europe by Phya Daruphan Pitaks of Bangkok about five years ago.

Dendrobium superbiens Reichb. f.

On account of its floriferous habit and long gracefully-arching racemes of crimson-purple flowers of lasting quality, this Australian dendrobe is one of the most popular among growers of exotic orchids in this country. The form with the light-coloured flower, which is rather rare at present, was introduced from Singapore by Phya Pojana Pricha about 1894; that with the flower of the typical shade, which is now the common one, was imported from Europe by Prince Prawm about 1896.

Dendrobium veratrifolium Lindl.

Introduced to Bangkok from Singapore by Nai Sri, a plant dealer at Silom, in 1931. The orchid is a native of New Guinea.

Dendrobium undulatum R. Br., var. australiense?

Prince Prawm is said to have personally brought this Australian orchid from Singapore in 1890 or 1891, on the impression that it was the *Dendrobium superbiens*, which he wanted.

Elaeis guineensis Jacq. Oil Palm. ปามน้ำมัน.

Phya Pradibhat Pubhal is believed to be probably the person who first introduced this oil-palm of tropical West Africa about thirty-five or forty years ago. The palm is usually grown in this country only for ornamental purposes.

Epiphyllum spp. โยตั้น, ฮ่อมตั้ก.

Of the Epiphyllum cacti there are at present in cultivation in Bangkok two or three kinds, all night-blooming. One of these is E. oxypetalum Haw., the others being probably of hybrid origin. They are said to have been introduced from China, by the Chinese, about fifteen year ago. Epiphyllums are natives of Tropical America and the West Indies.

Erythrina variegata Linn., var. picta Hort. Massanan.

This variegated-leaved coral tree, which is now common in gardens, is said to have been first seen in Bangkok about thirty-five years ago. It is not known whence and by whom the tree was introduced. The species is a native of many countries in the tropics.

The indigenous tawng lang bai mon, MEMANULA, it may be mentioned, is variety orientalis of the above species, and is usually known here under the name of *E. indica* Lam.

> Eucalyptus globulus Labill. Blue Gum. ตันยูคาลิย. ตันน้ำมัน เขียว.

The blue gum is a native of S. E. Australia and Tasmania, and is one of the fastest- and tallest-growing trees known, attaining a height of 300 feet and more. Occasional specimens of this eucalypt are to be seen cultivated in Bangkok and some provincial towns. In this country, however, the species does not seem capable of growing beyond a height of a hundred feet or so, although in its early years the growth is fairly rapid. This is probably due to the fact that besides being planted in the open, the localities where it is grown are not cool enough to favour its full development. In India where it has been cultivated for nearly a century, the species has been found to grow satisfactorily nowhere much below 4000 feet elevation.

The blue gum is said to have been seen the first time in this country in possesion of Prince Bovoravichaichan about 1880. The specimen was then but a seedling of small size, and is not known to have lived to grow into a tree. The following is a summary of an interesting account given by Phya Sihasakdi Sanitwongse¹ concerning this eucalyptus:

The blue gum was introduced by the Railway Department when the construction of the Bangkok-Korat Railway line was in progress² through the Dong Phya Fai forest, where jungle fever was taking a heavy toll of the lives of workmen on the line. The object of the introduction was to have the eucalyptus planted along the railway line throughout that notorious forest so that the strong odour from the leaves of the plants might diffuse through the surrounding country and rid it of the fever germs. All the plants set out on the railway line, however, died out, probably before they could become of any use. The blue gum was also introduced to the Dusit Palace grounds at the time the palace was being erected,³ as it was then found that the dense plant-growth on the sites acquired for the palace purposes harboured anopheles mosquitoes which were the cause of several cases of malarial fever among those engaged in the construction work. One or two specimens of the blue gum planted then are still to be seen living in the Khao Din Garden to this day.

> Eugenia uniflora Linn. (E. Michelii Lam.) Brazil or Surinam Cherry. มะยมฝรั่ง.

- ¹ พระยาสิหศักดิ์ ลนิทวงศ์: ตำนาน แล สรรพคุณของพืชบางอย่างที่ใช้เป็นยา แลอาหาร, กรุงเทพ ๖, พ.ศ. ๒๔๓๕
- ² Probably between 1892-1896 (W. W.).
- ³ About 1897-1898 (W. W.).

This Brazilian shrub with a red edible berry is said to have been introduced from Europe by Chow Kun Kromata about 1875. The Siamese name refers to the ribbed fruit, which in form somewhat resembles that of the mayom, NEUM (*Phyllanthus distichus* Mull. Arg.).

Ficus Carica Linn. Fig Tree. มะเดือดมั่ง.

The fig tree, supposed to be a native of Asia Minor, was first introduced into this country by Chow Kun Kromata about forty or fifty years ago, probably from Europe. Since then further introductions of the species have at different times been made by some inquisitive gardeners of Bangkok. All these are known to have grown unsatisfactorily and to have been in consequence very poor in bearing. At present a few specimens of the fig tree are still to be seen, but in a condition to further illustrate the unsuitability of the species to this country.

Ficus pumila Linn. (F. repens Hort.) Creeping Fig. มะเดืองถา

As a covering of walls, etc., this small creeping fig is occasionally grown in this country. It was first introduced, from either India or Europe, by Mr. Rivett-Carnac about thirty years ago. The smaller-leaved variety (*F. minima* Hort.) is a recent introduction imported from Australia by Phya Pojana Pricha in 1926. *F. pumila* is a native of Australia, China and Japan.

Grevillea robusta Cunn. Silky Oak. สนอินเดีย.

This ornamental tree of Australia has been in Siam for about thirty years, but came into public notice only in the earlier part of the reign of King Vajiravudh (1910–1925). It is of course neither an oak nor a conifer as the English and the Siamese names might respectively lead one to understand.

> Haemanthus multiflorus Martyn. (H. Kalbreyeri Baker). Blood Lily. ว่านตะกร้อ, ว่านพระอาทติย.

This African amaryllid, of striking beauty when in flower, is often seen cultivated in gardens. The plant was introduced at Lampang the first time by Mrs. M. H. F. Swete about eight or nine years ago. Of course the blood lily first came to this country much earlier; Phya Pojana Pricha says that he accidentally found a bulb of it in the pot of a plant imported from Singapore about 1891, but that Phya Pradibhat Pubhal may have had the plant some time before that.

Helianthus annuus Linn. Common Sunflower. ทานตวัน.

The sunflower, of the kind with a tall stem and a single gigantic flower-head, is said to have been first introduced into this country, at Ayudhya, by the Japanese, probably from Japan, during the reign of King Narai (1655–1688), *H. annuus* is a native of North America, and is now commonly cultivated here in many forms.

Hibiscus schizopetalus Hook.f. WELMS.

A favourite garden shrub a few decades ago, this Hibiscus has now fallen out of favour, being still seen only in some old gardens. The plant was first noticed in Bangkok about 1887, and probably it came at most a few years before that date.

Jatropha pandurifolia Andr. ชัตตาเวีย (patavia).

This shrub of the West Indies is pretty common in gardens, both the crimson- and the rose-flowered kinds being met with. The plant is said to have been first observed at the Saranrom Garden about forty-five years ago. The Siamese name indicates that the species came from Batavia.

Livistona chinensis R. Br. (Latania borbonica Hort.) ปามจิน, ปามเซียรไฮ้.

This Chinese fan-palm, occasionally seen in Bangkok, is said to have been introduced by Phya Pradibhat Pubhal about thirtyfive years ago.

Malpighia glabra Linn. Barbados Cherry. 1983.

The Barbados cherry, native of Tropical America and the West Indies, is occasionally grown in this country, by some under the impression that it is the true cherry tree (*Prunus Cerasus* Linn.). The tree has been known in Bangkok for about sixty or seventy years.

Also known among some Bangkok people as a "cherry" tree

is a plant, apparently a Ficus, whose young lenticellated stem and branches in a way resemble those of the true cherry tree.

Malvaviscus pilosus DC. (M. arboreus Cav.) ชะยาหนู.

This shrub with bright scarlet-crimson flowers has been grown in this country for over sixty years. It is a native of the West Indies, and is cultivated in many countries in the tropics. It is not known from which country the plant came directly to Siam.

Mentha sp. Mint. ANIMU (saranè).

The saranè mint, commonly grown in this country for culinary purposes, is said to have been introduced during the reign of King Phra Nang Klao (1824-1851) by a European named Sarani (phonetical transliteration of $\Im \Re \hat{u}$), from which the Siamese name for the mint has been derived. The mint is not known to have flowered here. It is probably some form of *M. arvensis* Linn., a native of Europe and Temperate Asia.

> Nephthytis picturata N. E. Br. ขอนลายกนก, กนกนหิ, กนก นฤมิตร์.

A native of Congo, this aroid is occasionally seen cultivated in Bangkok greenhouses, on account of its variegated leaves whose white markings form an artistic pattern much resembling a Siamese design known as *lai kanok* (ANANN). The aroid was first seen about forty years ago with Prince Sanpasart who, it may be said, had a rich collection of exotic foliage plants.

Oncidium spp.

The oncidiums listed below, all orchids of Tropical America and the West Indies, now still in cultivation, were introduced by Mr. Alabaster between fifty and sixty years ago, unless otherwise stated :---

O. ampliatum Lindl.

O. concolor Hook.

O. Lanceanum Lindl.

O. luridum Lindl.

O. Kramerianum Reichb. f. Introduced by Prince Tiwakron

about 40 years ago.

O. papilio Lindl. The butterfly orchid.

Pachira aquatica Aubl. (P. grandiflora Tussac).

Introduced from Mexico by the Deng Toi Nursery in the early part of 1933. The species, which is allied to *Bombax*, the silk-cotton trees, is a native of Tropical America.

Pelargonium Radula L'Her. Rose Geranium. Infilmlary. The above species, or rather a form of it, native of South Africa, was first brought over to Chiengmai from Moulmein (Lower Burma), via Me Sot, by Maung Ba Twin, a Chiengmai resident, in 1907. To Bangkok a similar plant is said to have been introduced by a Straits-born Chinese about fifteen years ago. The plant is nowhere common at present.

The Northern Siamese name given to this rose geranium is ton nam klan, Muunaiu, which is a literal translation of the Burmese name ye muih mee. The plant is so called because of its fragrant leaves, which the local people often employ for perfuming their clothes. The Bangkok name eau de cologne is of course of the same significance.

Pereskia Bleo DC. Barbados Gooseberry. กุหลายเทียม.

This leafy cactus of Central and South America is occasionally grown in gardens, sometimes as a plant for live fence. It has been in Bangkok for about forty years. A dwarf form, not over two or three feet in height, appeared a few years ago. The Siamese name, which is literally *bastard rose*, has been given to the plant on account of its rose-like pink flower.

Phalaenopsis spp.

There are several species of this genus of orchids in cultivation in this country. Among the exotic ones the following have been known since the time of Prince Sanpasart, successor to Alabaster as superintendent of the Royal (Saranrom) Garden, between forty and fifty years ago :—

P. Aphrodite Reichb. f. (Amboyna).

P. grandiflora Lindl. (Borneo and Java).

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P. Schilleriana Reichb. f. (Philippines).

P. Stuartiana Reichb. f. (Philippines).

Probably some of the above may have existed since Alabaster's time, 50-60 years ago.

Phlox Drummondii Hook. Drummond's Phlox. นิลุ่น (yi soon).

This garden phlox, native of Texas, is commonly cultivated in this country. Seeds are said to have been first imported from England by Mr. Rivett-Carnac about thirty years ago.

The local name yi soon is applied to a few exotic plants with non-fragrant but good-looking flowers.

Phoenix dactylifera Linn. Date Palm. อินทะผะดำ (indhapalam).

Specimens of the date palm are occasionally cultivated for curiosity in this country. It is not known when the date palm first appeared in Siam. Fifty years ago, it is said, a few date trees of 5-6 metres in height were already seen in Bangkok. Of course the the date *plum* has been known to the Siamese for quite a long time. In Luang Udom's diary we find mentioned that in the year 1839–1840 King Phra Nang Klao had twenty piculs of dates sent (by a sailing boat from Bangkok) to Chow Phya Sri Pipat, head of a military expeditionary force at Kedah. Judging from the Siamese name *indhapalam*, which is said to be also Tamil, the date *plum* was probably first imported to Bangkok from India, or at least by Indians. The date palm is a native of North Africa and Southwest Asia.

Also found cultivated in this country under the same local name is the wild date palm, or sugar palm (P. sylvestris Roxb.), a native of India, which is apparently a very old introduction. This species is allied to the date palm, and is by some thought to be the origin of the latter. It can be distinguished at a distance from the date palm by its somewhat spherical crown; in the true date palm all the leaves form acute angles with the stem.

Plumbago capensis Thunb. Plumbago. พยัพหมอก.

It is not known when this common South African shrub with

pale-blue flowers was introduced into this country. It is said to have been brought the first time to Bangkck from the western part of Peninsular Siam by Mom Rajotai in 1908 or 1909.

Polianthes tuberosa L. Tuberose. ส้อนกลิ่น.

On account of their mild fragrance and lasting quality, and perhaps also because of their unobtrusive white colour which is symbolical of peace and purity, the tuberose flowers, in whole spikes, whenever available, are most used by the Chinese and the Siamese as offerings at sacred shrines. The tuberose is a native of Mexico, but probably from China and by the Chinese it is believed to have been first introduced into this country before the Bangkok era, that is, over 150 years ago.

Portulaca grandiflora Hook. Rose Moss. MASANSA.

This is a flowering herb of recent introduction, having been seen here only within the last few years. It is a native of Brazil.

Pritchardia pacifica Seem. & Wendl. ปามพัด, ปามหางปลา.

This grand-looking fan-palm of a rather short trunk was first introduced from England, by either Phya Pojana Pricha or Phya Pradibhat Pubhal about 1902. It is native of Samoa and Fiji Islands.

Punica Granatum Linn. Pomegranate. MUNI.

Nothing is known about the pomegranate, which has been in cultivation from ancient times, probably even before the foundation of the Kingdom of Siam itself. However, the dwarf variety is said to have been brought from China during the second reign of the Chakri dynasty (1809-1824). The pomegranate is indigenous to Persia, Afghanistan and N. W. India.

Revenala madagascariensis Sonn. Traveller's Tree. กลัวย ລັງກາ.

Its palm-like stem with a crown of two-ranked banana-like leaves in fan-wise arrangement renders the traveller's tree very singular and interesting in appearance, and on this account the tree is now frequently grown in gardens. In olden days the tree was to be seen planted only in the grounds of Buddhist monasteries, as

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is now the case in Northern Siam with Musa glauca Roxb., nămuum, an indigenous plant of the same family. The traveller's tree is said to have been already well known in the reign of King Phra Chawm Klao (1851-1868). From these facts, as well as from the Siamese name of the tree itself, the traveller's tree was evidently introduced from Ceylon by some religious body, probably during the reign of King Phra Nang Klao (1825-1851), in which period religious intercourse between Siam and that country was frequent. The latest-known introduction was that brought to Bangkok, at Wat Liap, about the beginning of the reign of King Vajiravudh (about twenty-four years ago), from Ceylon and by a Ceylonese priest. The traveller's tree, as its botanical name implies, is a native of Madagascar.

Renanthera Lowei Reichb. f.

This long, climbing orchid of Borneo is occasionally to be found in Bangkok orchid houses, where it is usually known as *Vanda Lowei* Lindl. It has been here since Alabaster's time, 50-60 years ago.

Rhapis humilis Blume. Cane Palm. ทั่วสาร, จั้ง.

This low fan-palm of cane-like groupy stems is now very common in gardens, often kept dwarfed as a pot plant. It was introduced about thirty-five years ago, probably from China, its native country.

Rivina humilis Linn. Rouge Plant, Blood-berry. Winkis.

A native of Tropical America, this bright red-fruited herb is now pretty common, growing up spontaneously in various places. It bears a passing resemblance to a chillie plant, hence its Siamese name. Its introduction is not known, but it has been seen in Bangkok for about thirty or forty years.

Rosa damascena Mill. Damask Rose. กุหลาบมธญ (gulab mawn).

With the exception of the *gulab mawn*, a kind of damask rose, which is the commonest and the hardiest, all the numerous varieties of roses now seen in cultivation in this country are known to have come into Siam only within the last sixty years or so. The gulab mawn, however, is said to have been brought to Siam by the Mon (hence the Siamese name, which is literally Mon rose) from their country, the present Lower Burma, during either the reign of King Naresuan (1590-1605) or that of his father, King Mahadhamaraja (1569-1590). Possibly, of course, the gulab mawn may have come to this country much earlier than the above periods. The native country of Rosa damascena is unknown.

The Siamese have no generic name of their own for roses, the name *gulab* being, as one knows, borrowed from India.

Ruta graveolens Linn. Rue, Herb of Grace. Dia.

This hoary-green, strongly-aromatic perennial herb, native of South Europe and West Asia, is occasionally to be found cultivated in pots for medicinal uses. It is not accountable when the plant came to Siam, but it is certainly known that it has been in Bangkok for at least seventy years. The Siamese name *arud*, which is evidently from *aruda*, a Hindu name for the rue, is suggestive of the plant having been introduced from India, or by Indians. The rue is not known to have flowered in Bangkok.

Salvia splendens Ker-Gawl. Scarlet Sage. ประทัดเล็ก.

It is not certainly known when the scarlet sage, a native of Brazil, was first imported into Siam. Dr. H. M. Smith informs the writer that it was introduced at Lampang by English seeds about 1916, by Mrs. L. S. Hanna, and is now widely grown in villages in various parts of Lampang province.

Besides the above species, *S. coccinea* Linn., also an American plant, and its derivatives, are often cultivated in Bangkok.

Sanchezia nobilis Hook., var. glauciphylla Lem. 1201101?

This acanthaceous shrub of Ecuador is commonly seen in Bangkok gardens, where it thrives luxuriantly, forming big clumps. The plant is said to be an introduction of about 50 or 60 years' standing.

> Schizocasia Portei Schott. อาละบาสเตอร์ (alabaster). This aroid of the Philippine Islands is occasionally met with

in Bangkok green-houses. It is said to have been introduced to Bangkok at Suan Anant about fifty years ago, by Henry Alabaster, after whom it has been locally named.

Schomburgkia spp.

There are two species of Schomburgkia orchids at present cultivated in Bangkok, one is *S. undulata* Lindl., a native of Colombia and Venezuela, the other is *S. tibicinus* Batem., a native of Honduras and Cuba. The former was introduced during Alabaster's time, between fifty and sixty years ago, but it is not certain whether it was Alabaster himself or Chow Kun Kromata who had it first. The latter was imported from Europe by Phya Pojana Pricha of Bangkok a little over thirty years ago.

Spondias dulcis Forst. (S. cythera Sonn.) มะกอกหวาน.

This fast-growing tree, a native of Society Islands, is often grown in this country for its sweet-acid fruit which is sometimes known as *Otaheite apple*. It has been in Siam for over fifty years.

Swietenia Mahagoni Linn. Mahogany. มะฮอกคินิไบเล็ก.

Besides the big-leaved mahogany (S. macrophylla) which is commonly planted as a road-side tree, S. Mahagoni, which has much smaller leaves, leaflets and capsules, is also occasionally seen in Bangkok. Judging from the size of a specimen now growing in the Saranrom Garden, which has a trunk of many feet in girth. the species must have been in Siam at least fifty or sixty years. S. Mahagoni is a native of Tropical America.

Terminalia Arjuna Bedd. ภาพ่าชาว?

The only specimen of this Indian Terminalia seen by the writer in this country is that now growing in the Saranrom Garden, in front of the big open building which is often used as an exhibition or dancing hall on "fair" days. It is believed that the tree was probably introduced from India between 50 and 60 years ago, during which period King Chulalongkorn paid a visit to that country.

T. Arjuna is closely allied to T. alata and T. crenulata, the Siamese rok-fa ($\mathfrak{m}\mathfrak{N}\mathfrak{I}$) trees, from which it can be readily distinguished by its smooth grey bark and drooping branches.

Thrinax radiata Lodd. (T. elegans Hort.) ปามสะดือเหลือง (pam sadu luerng).

Probably this species, the pair sadu luerny, is said to have been introduced by Phya Pradibhat Pubhal about thirty-five years ago. The Siamese name refers to the conspicuous yellow ligule or process at the base of the leaf-blade. T. radiata is a native of the West Indies.

Thuja orientalis Linn. Chinese Arbor-Vitae. สนหารสิรห์.

The Chinese arbor-vitae and some of its forms are the commonest among garden conifers in this country. Large examples of the species are often to be seen at old Chinese temples. This conifer is said to have been introduced from China during the second reign of the present dynasty (1809–1824).

Tithonia diversifolia DC. Mexican Sunflower. ทานตวันหน.

Information from many sources has it that the Mexican sunflower has been in Bangkok for about thirty-one years. This seems to confirm, as the first for the species, the date of introduction (1902) recorded in Nat. Hist. Suppl., viii, No. 4, p. 334.

Triphasia trifolia P. Wils. (P. trifoliata DC.) มะนามทศ.

This old garden shrub is said to have come from China, its native home, during the second reign of the Chakri dynasty (1809–1824). It is now becoming a rare sight here.

Vallaris pergulana Burm. ชำมะนาด, ชำมะนาดกลาง.

When in flower, which is white and strongly musk-scented, this is certainly one of the most charming garden climbers. It is a native of Java, Timor, and the Malay Islands, and is said to have been in Bangkok for at least sixty or seventy years.

Closely allied to the above is a Siamese species, Vallaris Heynei Spreng., ชำม:นาดเล็ก, which has very fragrant flowers of quite a different smell.

Vanda tricolor Lindl.

This Javanese Vanda is also one of the exotic orchids earliest cultivated in this country, being introduced to the Saranrom Garden at Bangkok between fifty and sixty years ago, from Singapore.

Zinnia elegans Jacq. Garden Zinnia. ยานชื่น

The garden zinnia, a Mexican plant, now very commonly cultivated in many varieties, is said to have been first observed in Bangkok in the garden of Phya Sombataya Pibal of Ban Dawk Mai fifty or a little more years ago. Only small and single-or semi-doubleflowered kinds were then to be had.

Royal Forest Department, Bangkok, April, 1934.

