

Mamme tree (*Mammea africana*, Don.) The pleasant-tasted wine-like fruit of *Sapidus senegalensis*, Poir., called the Cherry of Senegal, and the fruit of a *Bursera*, (*Safu*), which is cultivated everywhere in Congo along the villages, are more highly prized. The fleshy fruit of *Pappea capensis*, Ekl. and Zeih., of the Cape, the seeds of which furnish oil; the orange-yellow berries of *Strychnos spinosa*, Lam., only edible in the ripe state, and the berry-like fruit of *Sodada decidua*, Forsk., in Egypt, and even the fruit of the Baobab, *Adansonia digitata*, L., furnish only a scanty nutriment. Another fruit which deserves mention, on account of its butter-like fruit, which the natives of Sierra Leone make use of, is *Pentadesma butyracea*, also *Dialium nitidum*, Guill. and Perrot.

Balanites aegyptiaca, Delil. (*Ximenia aegyptiaca*, L.), a tree with edible fruit, is also peculiar to Africa. It is abundant in Nubia, from 20° N. latitude to beyond Sennaar, and at a very early period was transplanted to Egypt. It was brought by the negro slaves to St. Domingo from Senegambia, where it is likewise found. The fruit is sweet; the seeds contain oil. The *Hypphaene thebaica*, Del., indigenous to Upper Egypt, (Dongola,) furnishes but a scanty flesh. It is eaten only in cases of need, although, according to Kotschy, beer is brewed from it. The fruit of *Ficus sycamorus*, L., the Asses fig, is not of much greater value. It has a somewhat aromatic taste; is brought to the market in Cairo, and is eaten throughout the entire East. Kotschy has frequently eaten, in Fazokl, a fruit of *Diospyros amoena*, Wall., which has a taste similar to chocolate. The best native African fruits, one not dissimilar to our peach, is that of *Paranarium senegalense*, Guill. and Perrot., a tree distributed from Senegal throughout Africa to Fazokl. The fruit of *Detarium senegalense*, Gmel., is also similar to the preceding. It has a greenish, mealy flesh, of a sweet taste, although somewhat sharply acid. It is eaten in great quantity, both in Senegal and Eastern Africa (Fazokl).

Europe furnishes only a small number of sweetish-acid fruits. Of these the apple and pear are of most importance. Others are species of *Sorbus*, *Crataegus*, and *Cornus*, some kinds of *Ribes* and *Vaccinium* as also various *Rosaceae* (*Fragaria*, *Rubus*.) Both the pear (*Pyrus communis*, L.) and the apple tree (*Pyrus malus*, L.) are native in the mountain forests of temperate Europe, as also in the Caucasus. The pear tree in Balkan even forms large groves, while elsewhere, like the apple tree, it is more or less solitary. These two plants, with small, acid, and bitter fruits, have been an object of cultivation from time immemorial. They have been altered in the most varied manner, and now furnish the most palatable and enduring of fruits, which are eaten both fresh and dried, and in many regions furnish an abundant subsistence. Both pears and apples were raised in the gardens of the Pheacians, and Thasos was celebrated in ancient times on account of the excellence of its pears. The primitive festival of the Ballachrades of the Argives with the wild pears (*ἀγρος*) has reference to this first article of food of their forefathers. The Jews were acquainted with greatly improved varieties of the pear, but the Romans first occupied themselves more closely with its cultivation, and produced numerous varieties, among which we may recognize, in part, the kinds of apples

and pears of the present day. Many of these, as for example *Malum appianum*, were introduced by Appius from Greece.

If we review the progress of the cultivation of these two fruit trees we find that Theophrastes knew three kinds of pears and two of apples; Cato knew six kinds of pears and seven of apples; Pliny knew forty-one kinds of pears and thirty-six of apples; Palladius knew fifty-six kinds of pears and thirty-seven of apples.

Since then, owing to the constant efforts of cultivators, they have increased more than thirty-fold, so that at the present day we are acquainted with over 1,500 varieties, often differing extremely from each other in the size, form, taste, and consistence of the fruit.

At the present day neither the pear nor the apple occurs wild in the East. Landerer* states that the wild pear tree grows in Greece, particularly in the Morea, on the driest declivities of the mountains, as a small shrubby and thorny plant, and that the fruit is by no means pleasant. Between Shiras and Ispahan, Kotschy found a village with large plantations of pear trees, but was not able to ascertain with certainty whether they were the same as our *Pyrus communis*.

With reference to the apple, it is remarkable that in the entire East only summer apples are cultivated, never the kinds which can be kept over winter.

The common pear, from its naturally wide circle of distribution, would necessarily receive a great variety of appellations. The Celtic word *Peren* will serve as the primitive word for the greater portion of Middle, Southern and Western Europe; and even the Grecian *ἄπιος*, which was constantly used for the cultivated form, may have been derived from it. The names used by the Slavonic nations, as well as those of the Persians, Arabians, and Chinese, among which this has been cultivated, are very different from these.

The apple tree, of less extensive distribution, has nevertheless a more universal primitive name, which consist in the root *Ab*, *Ap*, *Al*, *Av*, whence also is derived the latin word *Malum*, which differs little from the Grecian *μηλέα*. The Sanscrit, Arabian, and Chinese words for the apple are entirely distinct from those just mentioned.

It may be mentioned, in addition, that besides this species of *Pyrus*, the East possesses still other indigenous, partly shrubby, and partly tree-like species, the fruit of which is eaten to some extent. Among these may be mentioned *Pyrus glabra*, Boiss., in Southern Persia, and *Pyrus syriaca*, Boiss., a tree exceeding our pear tree considerably in height, the mellow fruit of which is used as food in the autumn.

The Service apple, (*Sorbus domestica*, L.), indigenous in the mountain forests of Southern Europe, and even cultivated here and there, is of much less importance. The Romans were acquainted with four different kinds of it.

The wild service berry (*Crataegus terminalis*, L., and *Crataegus aria*, L.), both found in the mountain forests of Middle Europe, and the Azarole, (*Crataegus azarolus*, Willd.), in the middle Mediterranean region, are of equally little value. *Crataegus trilobata*, Labill., found on Lebanon, comes likewise in the same category. The small berry-

*Oesterr. bot. Wochenblatt, 1856, p. 355.

like fruits of a pleasant flavor, and tasting like pears, according to Kotschy, are frequently collected and brought to market in Damascus.

To these insignificant fruits may be added the Cornel cherry, (*Cornus mascula*, L.), though much more widely distributed than they are. Homer and Theophrastes mention this hard-wooded tree, which grows very abundantly in Thessaly and Macedonia, as well as in Asia Minor. The cornel was at one time preferred for the shafts of lances to any other wood. The Romans used its fruit fresh, dried and put up in salt, and fed swine with it, as was the case formerly in the regions of the Rhine and Moselle. There are several varieties of it, among which there are even some with yellow fruit.

Diospyros lotus, L., a woody shrub of Southern Europe and Northern Africa, has a fleshy and not unpleasant fruit somewhat like the sloe. A vinous drink is prepared from it in many places.

As many species of *Ribes* are peculiar to Europe, it may be well supposed that the Red currant (*Ribes rubrum*, L.) and the Gooseberry (*Ribes grossularia*, L.) are likewise indigenous here. In fact, the former species has a distribution extending over the whole of Northern and Middle Europe, and reaching even to Kamtschatka and the whole of northern North America. This berry was not known to the Greeks and Romans, and it seems that it first made its appearance in our gardens in the middle ages. The currant was cultivated earlier in Northwestern France than in England, where it first appeared without a name at the end of the sixteenth century. The names *gardes*, *grades*, and *gradilles*, in Normandy, certainly had their origin in the Celtic word *gradiz*, meaning *sour*. The name *Ribes* seems to owe its origin rather to the Scandanavian *Risp* and *Reps* than to the Arabian *Ribes*. In Italy, where the currant is little cultivated, it is called *Uva di fratri*, which has reference to a monkish origin. The "Masterly Book of Medicine and Plants, 1497,"* of Johannes Tollat, of Vochenberg, is the first botanical work in which the currant occurs under the name of *Ribes joanis*. The French name *Groseille d'outremer*, and the name *Raisin de mare* (Meertrübli), used in Switzerland, may be easily explained.

The parent plant of the Gooseberry is the *Ribes uva crispa*, L., very common in Europe, although the gooseberry itself actually occurs run wild escaped from gardens. Its distribution extends furthest towards the north. In England, four hundred varieties are known, differing very much from each other in color, size, taste of the berries, &c. The cultivated gooseberry, as well as the currant, has become widely known in North America. The names *Grossularia* and *Groseille* are probably derived from the German *Krausbeere* or *Krausebeere*. The Celtic, Breton, and Slavonic names are entirely different. A still undescribed species on Lebanon and Hermon, according to Th. Kotschy, furnishes palatable fruit to the inhabitants of the mountains.

The genera *Fragaria* and *Rubus* furnish smaller acid fruits. Three species of Strawberry occur in Europe, the fruit of which furnishes a delightful dish: these are the common strawberry (*Fragaria vesca*, L.), the garden strawberry (*Fragaria elatior*, Ehrh.), and the hard strawberry (*Fragaria collina*, Ehrh.) The first of these is the longer known

*Sprengel, Gesch., i, p. 297.

and most widely distributed plant, the two others are rarer and only occasionally met with. The forest and garden strawberry are cultivated everywhere, though not for a very long period. Numerous varieties have arisen from them, differing from each other in size, color, and quality of the fruit.

At the present day the Scarlet strawberry (*Fr. virginiana*, Mill.), the Pine apple strawberry from Surinam (*Fr. grandiflora*, Ehrh.), and the Chilian strawberry (*Fr. chilensis*, Ehrh.), are also cultivated in gardens.

The Blackberries belong to our native fruits, while the greater number of the species of *Rubus* furnish only slightly valued fruits. The *Rubus idaeus*, L. or Raspberry, and the Cloudberry, peculiar to the far north, *Rubus chamaemorus*, L., as well as *Rubus arcticus*, L., are much esteemed. The first species is cultivated in our gardens at the present day, and is mentioned even by Palladius as a garden plant. Both Strawberries and Raspberries lose their pleasant taste by cultivation in hot regions.

Various species of *Vaccinium* furnish a not unacceptable fruit in certain countries, owing to the very great number of individuals distributed over entire forests, heaths, and moors. Their fruit is used both fresh and dried, and cooked in various ways, and is even employed in the preparation of drinks. Among them may be mentioned the common Heathberry (*Vaccinium myrtillus*, L.), the Moorberry (*Vaccinium uliginosum*, L.), the Cowberry (*Vaccinium vitis idaea*, L.) The American Cranberry, *Oxycoccus macrocarpus*, furnishes a berry which is highly prized; it grows abundantly in boggy and peaty places in the Northern United States and British America, and is beginning to be cultivated very successfully. The Sandberry (*Arbutus unedo*, L.), without any peculiar taste, is a small evergreen, growing in Southern Europe and Middle Asia; it has fruit resembling strawberries, which ripens in the second year, becomes first yellow and then red.

Australia is still very sparsely provided with fruits. The most useful indigenous fruit tree is the peach-like *Quandang*, (*Fusanus acuminatus*; R. Br.) Of less importance are the fruits of *Santalum lanceolatum*, R. Br., *Mesembryanthemum aequilaterale*, Haw., and *M. praecox*, Mill., *Leptomeria pungens*, Mill., and *L. acerba*, R. Br. *Sambucus xanthocarpa*, Mill., *Nitraria billardieri*, DC., and several species of *Exocarpus*, *Leucopogon*, and *Lissanthe*. The berry-like fruit stem of *E. cupressiformis*, Sab., are particularly remarkable, as also the berries of *Coriaria sarmentosa*, Forst., a shrub growing wild in New Zealand. The New Zealanders use besides this the berries of *Dracaena indivisa*, Forst.

America, on the other hand, furnishes a much richer supply of pleasant-tasted acid fruits. We may first mention the Cashew tree, caju, acaju (*Anacardium occidentale*, L.), a large wide-spreading tree of the family of *Terebinthaceae*. The fruit consists of a pear or cucumber-shaped fruit stem on which is a large brown nut. The two are used both raw as well as cooked, and made into dishes. The fruit stem when ripe has an acid taste, and the kernel, when peeled and roasted, tastes like chesnuts. The natives of Brazil often go to war with each other on account of this fruit, and the conquerors establish themselves about the trees till the fruit is all consumed. The tree is

indigenous to the West Indians, Central America, Guyana, Peru, and Brazil, and is cultivated there also.

The Portuguese transplanted this useful tree as early as the sixteenth century to the East Indies and Indian Archipelago. All its names point to an American origin. Its existence on the eastern coast of Africa is of still more recent date, while neither China, Japan, or the islands of the Pacific ocean are acquainted with it. Its fruit stem is sometimes longer and sometimes shorter, varying with the influence of cultivation. In the Asiatic plant the stem is always shorter.

The American Mammey tree, (*Mammea americana*, L.), sixty to seventy feet in height, is one of the finest trees of the Antilles, with its pyramidal crown, the largest berries of which, from three to seven inches in diameter, furnish a much prized fruit. The outer and middle epidermis are leathery and tough, the inner skin bitter, while the yellow pulp is more spicy and palatable, and is used raw, and prepared in various ways. Though it is cultivated in the West Indies, experiments have not been made to propagate it more extensively.

The fruit of *Mammea emarginata*, Sess., is eaten in Mexico.

The Avocado Pear, or Abacate, (*Persea gratissima*, Gärt.), is the most highly prized fruit of Brazil. It is like a large pear, with a green, leathery rind, and tender, juicy flesh, which incloses a hard nut, like a walnut. The flesh, made into a sauce, with citron juice and sugar, has a delightful taste. One fruit is sufficient for three or four persons. In itself the flesh is insipid, but tender and soft, tasting like artichokes. Moritz Wagner says it may be called vegetable butter, as it melts upon the tongue. This very large tree flourishes only in the warmer countries of Brazil. Its real native country is Central America, Mexico, and the northern part of South America, whence it has been distributed by cultivation to the Antilles. It seems to have been cultivated longest in Mexico under the name of *Ahuaca*. It has been naturalized on the islands of Bourbon and Mauritius since 1758.

The guavas of America are of much importance for the abundance of their yield. The pear guava (*Psidium pyriferum*, L.), is distinguished from the apple guava (*P. pomiferum*) by the shape of the fruit, that of the former being pear-shaped, that of the latter being globular, and varying from the size of a plum to that of an apple, and resembling an orange. Under the firm leathery shell, there is the soft flesh which passes inwards into a beautiful rosy-red pulp, inclosing numerous small kidney-shaped, hard seeds. The fruit of the first-mentioned species tastes like strawberries and raspberries; that of the latter is somewhat bitter, but, with the addition of sugar, becomes very palatable. At the present day, it is not decided whether these two plants are of one species, or mere races or varieties; though there seems to be more reason for the latter than for their specific distinction.

Both forms belong to the tropical main land of America, from Mexico to Brazil, and have, probably, been carried thence to the West Indies. The trees are thin-stemmed and rather low, but bushy; and, at the present day, grow wild or run wild in many places, especially in the vicinity of settlements. They were first distributed in various directions by birds and beasts, which eat their fruit greedily, and drop

the seed undigested. Their cultivation has been carried on by the primitive inhabitants of those countries from time immemorial, as is shown by the fruit, which is frequently without seeds. This plant first reached the East Indies through the agency of the Portuguese and Spaniards. It is remarkable that *Psidium pomiferum* has been propagated there more than *Psidium pyriferum*. It is only recently that the guava has extended to China and the Philippine Islands; and it has, thus far, advanced neither to Japan nor to the islands of the Pacific ocean. It has only recently been introduced on the west coast of Africa and the Island of Mauritius.

It is uncertain whether *Psidium sapidissimum*, Jacq., with its dirty yellow fruit, the size of a plum, is a variety or not of *Psidium pomiferum*, of which, besides, there are numerous varieties. The other species of *Psidium*, such as *Psidium aromaticum*, Aubl., *Ps. cattleyanum*, Sabine, *Ps. grandiflorum*, Aubl., *Ps. guineense*, Sm., and *Ps. lineatifolium*, Pers., have likewise edible fruits, but are not much known.

We may here also mention the large egg-shaped fruit of *Grias cauliflora*, L., the anchovy pear of the West Indies.

Our cherry is replaced in Southern America by the *Pitanga* (*Eugenia michelii*, Lam.), indigenous principally in Cayenne, as well as by the Jabuticaba (*Eugenia cauliflora*, M.) The fruit of the latter is the size of our oxheart cherry; and, under the tender black epidermis, there is a white, soft, and even juicy flesh, in which are two or three seeds. It is inferior in taste to our cherry. In Brazil, it ripens at the end of winter, (September, October,) and, as it is the only fruit which can be had fresh at that time, is very much esteemed. Both species have been planted on the Antilles, and even introduced into the East Indies.

Eugenia floribunda, West., and *Eugenia brasiliensis*, Lam., also furnish edible fruit.

Another fruit, the size and shape of our plum, the ibametara, or Spanish plum, is obtained from a tree (*Spondias myrobalanus*, Jacq., *Spondias purpurea*, L.) which grows wild in the forests of Jamaica, and is cultivated in the northern regions of the tropical parts of Brazil. The natives eat the sweetish acid flesh, prepare a sauce, and manufacture drink from it.

Another species of the same genus (*Spondias dulcis*, Lam.) is found on the Friendly Islands. The tree is 50 feet high, with a straight trunk the thickness of a man, and bears clusters of large, oval, golden yellow, stone fruit, like pomegranates, the fleshy putamen of which is sweet and palatable, and reminds one of the pine-apple. The *Spondias tuberosa*, Aruda, and *Spondias lutea*, Lam., (*Spondias mombin*, Jacq.), in the West Indies, also furnish edible fruit.

The Icacó plum (*Chrysobalanus icaco*, L.) is also worthy of mention. This tree-like shrub, with its fruit similar to the damson, grows wild as well as cultivated in the forests along the shores of South America, and on the wet coasts of Carolina. It has been introduced from Africa, where it occurs from Senegal to Congo. The fruit is made into preserves, and brought to Europe.

The common Sapodilla or Zapota (*Sapota achras*, Mill., *Achras sa-*

pota, L.) furnishes a much-esteemed fruit. The tree is 50 feet high, with an expanding crown, and is still to be met with in its wild state in the forests of Venezuela and the islands of the Antilles. Although it has been long ago introduced into the gardens both there and in South America, it has but recently found its way to Mauritius, to Java, to the Philippine Islands, and even to the Indian continent. The medlar-like fruit, of a milky, quince-like taste and form, is a much-esteemed fruit in the whole of tropical America. There are several varieties of this plant.

The genus *Anona* is rich in species furnishing very pleasant fruit. They belong, with the exception of a single species, *Anona senegalensis*, Juss., already mentioned, exclusively to America, whence they have been distributed to other parts of the world. The following species may be mentioned more particularly:

The Sugar Apple (*Anona squamosa*, L.) has a conical or pin-shaped fruit, (whence it is called Pinha in Brazil,) with a greenish, imbricated, scaly shell. The flesh is white, full of long, brown granules, very aromatic, and of an agreeable, strawberry-like, piquant taste. In Costa Rica it is the most valuable fruit of the country. It is uncertain whether the native land of this tree is to be looked for in Mexico or in the plains along the mouths of the Amazon. Von Martius found it forming entire forest groves in Para. Its cultivation in tropical America and the West India Islands undoubtedly goes back very far. It, of course, could not be otherwise than that so useful a tree should be transferred to the Indian Archipelago just as soon as trade with these two parts of the world was established. Accordingly, it was carried to Cochin China, China, the Philippines, and throughout the whole of India with very great rapidity, so that we should be in doubt whether it was actually introduced, and was not really indigenous; had we not sufficient grounds to substantiate its American origin.

A second species is the *Anona muricata*, L. This tree bears a large, fleshy, juicy, and well-flavored fruit, of a sweetish acid taste, like *Ribes nigrum*. It grows wild on the Antilles, (Barbadoes, Jamaica), but in Surinam has only escaped from gardens, and is cultivated in the whole of Brazil, Peru, and Mexico. In Jamaica the fruit is only sought after by negroes. The plant has quite recently been carried to Sierra Leone.

Botanists are not agreed as to whether *Anona asiatica*, L., which is cultivated in Cochin China, is to be referred to this or to the following species.

The third American species is the *Anona reticulata*, L., with brown berries the size of a man's fist, which constitute a highly-prized fruit. It is native to the forests of the Antilles, especially to Barbadoes and Jamaica, but it is cultivated in Peru and Brazil.

The *Anona cherimolia*, Lam., originally from Peru, seems to be naturalized only in the mountains of Port Royal, in Jamaica. Venezuela, New Grenada, and Brazil only know it as a plant of cultivation. It has been carried to the Cape de Verd Islands, and to Guinea.

We may mention, also, in conclusion, *Anona paludosa*, Aubl., a small tree, the height of a man, growing upon marshy meadows, with elongated yellow berries the size of a hen's egg, which have a juicy

flesh. Also, *Anona palustris*, L., in the West Indies and South America, with fruit the size of the fist; *Anona punctata*, Aubl., from Cayenne, with palatable fruit of a reddish, gritty, and granular flesh; *Anona longifolia*, Aubl., also found in Guyana, has round fruit, the size of the fist, the flesh of which is excellent and is very much prized by the Caribs; *Anona cinerica*, Dunal; *Anona mucosa*, Jacq., in the West Indies and Guyana; and, finally, *Anona tripetala*, Ait., from Peru. The fruit of the latter, known as the *Cherimoyer*, the size of the fist, with white, sweet, and pleasant-smelling flesh, is ranked among the best in the land. (Pöppig's Travels, xi, p. 135.)

Some other acid fruits are furnished by *Sapindus esculentus*, St. Hil., *Sterculia chica*, St. Hil., and *Schmidelia edulis*, St. Hil., in Brazil; *Rheedia lateriflora*, L., in the Antilles, as also *Malpighia puniceifolia* L. (Antilles cherries), and *Byrsonima spicata*, D C.; also, *Melicocca bijuga*, L., *Hancornia speciosa*, Gomez, and *Couma guyanensis*, Aubl. The gooseberry-like fruit of *Melastoma arborescens*, Aubl., *M. flavescens*, Aubl., *M. guyanensis*, Poir, *M. spicata*, Aubl., *M. succosa*, Aubl. (the *Coca Henriette* of the French), and *M. tocca*, Ders., are of little value, as is also the case with the berries of *Ambelania acida*, Aubl., of Guyana, of *Fuchsia racemosa*, Lam., and *Fuchsia denticulata*, Ruiz and Pav., of South America. The same may be said of the fruit of *Podophyllum peltatum*, L., *Podophyllum callicarpum*, Rafin, the May apple of North America.

We may also mention the Persimmon or Date plum (*Diospyros virginiana*, L.) of North America, already referred to on a previous page. Its fruit can only be used in a perfectly ripe state, when it is of a pleasant sweetness and quite nutritious. Previous to this it is excessively astringent. Drink is made from it. It is also found in the gardens of Europe. *Cerasus virginiana*, Michx., and *Cerasus cepolin*, D C. of Mexico, are species, the latter of which is frequently cultivated on account of its pleasant taste.

The acid fruits of a few palms, such as *Corypha cerifera*, Arrud., and *Mauritia vinifera*, Mart., of Brazil, belong in this connection.

The group of nutrimentitious plants to be last mentioned is characterized less by the presence of one or other vegetable substance, than by a mixture of starch, gum, sugar, wax, albumen, &c., to which here and there may be added various peculiar vegetable principles. These are the green garden vegetables, such as species of cabbage, kale, spinach, lettuce, asparagus, artichokes, &c., which are used sometimes in the leaves or young shoot, sometimes in the flowers, as they contain a proportionally small portion of nutriment. They are seldom eaten raw, but are cooked up in combination with other substances.

A peculiar character is given to those nutrimentitious plants by the no small amount of vegetable acids, alkalies, and earths which they contain. Among these may be mentioned malic acid, oxalic acid, potash, soda, lime, and magnesia, which make their use, in connection with meat, particularly advantageous, on account of their tendency to render the latter more digestible and soluble. The amount of nutriment of the green herbaceous parts of plants is still more scanty, and, strictly considered, they have little to entitle them to the name of escu-

lent vegetables, such, for instance, as the leaves of *Ranunculus ficaria*, the beech, &c.; and it is somewhat astonishing that these could ever have been used as nutriment for man, except in time of famine.

The youngest shoots and the young leaves of various palms, though in reality limited to the tropical zone, furnish most important and productive esculent vegetables. The principal of these is the cabbage palm, called, also, cabbage tree (*Euterpe caribæa*, Sogl., *Areca oleracea*, Jacq.) This stately palm, 200 feet in height, is native in the whole of the West Indies. The "cabbage," prepared in various ways, forms a pleasant dish; as a preserve, it has even found its way to Europe. Three other species, *Cocos oleracea*, Mart., *Euterpe oleracea*, Mart., and *Euterpe edulis*, Mart., indigenous in Brazil, are likewise known on account of their cabbage. The Palmetto (*Chamerops palmetto*) of the southern United States is also made use of for a similar purpose. The mountain cabbage and the *manico* palm, upon which Schomburgk lived almost exclusively for weeks, on the banks of the Oronoco, probably belongs to one of these species.

The Old World, also, has its cabbage palm. Among these, may be mentioned the cocoa tree, the young top of which contains a succulent mass, which is sweet and tastes like hazel-nuts, and is considered a choice dish wherever it occurs. Other cabbage palms are *Areca glandiformis*, L., and *Areca humilis*, L., found in the Moluccas, and *Sagurus raphia*, Lam., in Malabar and Guinea; also, *Corypha umbraculifera*, L., *C. rotundifolia*, Lam., and *Caryota urens*, L.

Australia, also, in *Corypha australis*, and New Zealand, in *Areca sapida*, Soland, have nutritious cabbage palms.

Even the Date palm, the fruit of which is so useful, is here and there robbed of its soft top and leaf-buds, which the Arabians and Persians consider one of the choicest dishes.

A very important dish is furnished in the regions of the Blue Nile by *Musa ensete*, Bruce. Although the fruit of this plant is not palatable, and rarely eaten, the young stems, on the other hand, furnish a better article of food. The white marrowy portion, freed from the rind and cooked, has the taste of the best wheat bread, and dressed with milk and butter, supplies a very excellent, wholesome dish. The plant occurs even in the Egyptian antiques, and seems to have been more widely distributed at an earlier period than at the present day. Large plantations of it occur at Maitsha and Goutto, (Gondar?) according to Bruce.

We do not often meet with a plant exhibiting so many forms in its variations from the original type as the Cabbage (*Brassica oleracea*, L.), the different races and varieties of which may be estimated at 30 or more. No kitchen-garden in Europe is without it, and it is distributed over the greater part of Asia, and, in fact, over most of the entire world. The original plant undoubtedly occurs wild at the present day on the steep chalk rocks of the sea province of England, and on the coast of Denmark, (Seeland,) and of Northwestern France; and it is a question whether this marine plant did not at one time have a much wider distribution when the climatic peculiarities of Europe were different from what they are now. Other species of *Brassica*, very nearly allied to the preceding, such as *Brassica bala-*

rica, Richl., *Brassica insularis*, Moris, and *Brassica cretica*, Lam., belong to the Mediterranean flora, and it is perhaps possible that some of these species, likewise introduced into the gardens, and established as cultivated plants, may have mixed with each other, and thus have assisted in giving rise to some of the many races cultivated at the present day.

It is very remarkable that the European and Asiatic names used for different species of cabbage may all be referred to four roots. The names Kopfkohl, Cabus, Cabbage, Kappes, Kraut, Kapost, Kaposta, Kapsta (Tartar), Kopee (Bengal), Kopi (Hindustan), have a manifest relation to the Celto-Slavonic root *Cap*, or *Kap*, which in Celtic means head. *Brassica* of Pliny, is derived from the Celtic, Bresic, (cabbage.)

The Celto-Germanico-Greek root *Caul* may be detected in the word *Kaol* (Breton), the Grecian *καυλιον* of Theophrastes, the Latin *Caulis*; also in the words *Caulix*, *Cavolo*, *Caou*, *Kohl*, *Kale*, *Kaal* (Norwegian), *Kohl* (Swedish), *Col* (Spanish), *Kelum* (Persian); finally, the Greco-Germanic root *Cramb*, *κράμβη*, passes into *Krumb*, *Karumb* of the Arabians, and probably into the German *Kraut*, which originally indicated the cabbage plant, but subsequently became a generic name.

The want of a Sanscrit name shows that the cabbage tribe first found their way at a later period to India and China. Even in the time of Thunberg it was wanting in Japan.

The young shoots of *Brassica cretica*, Lam., were formerly used in Greece as a dish.

Brassica carinata is allied in habit to *Brassica nigra*; it is found wild in Abyssinia, and is also cultivated there; although it furnishes very poor cabbage, not to be compared with ours.

It seems pretty well established that our Lettuce (salad), *Lactuca sativa*, L., is not a true species, but rather a variety of *Lactuca scariola*, L., indigenous to the Southern Caucasus and the neighboring regions, and thence distributed over the whole of Europe to Altai. The lettuce plant is no where found wild, though continually met with run wild. The ancient Greek cultivated two varieties, *L. capitata* and *L. crispa*, and lettuce was known to the Persians in the time of Cambyses. It is called *θίδαξ* by Dioscorides, and it even now belongs among the most prized dishes of the Greeks. The common people are satisfied with raw lettuce, eaten with a few olives and a piece of bread and cheese. Pliny was already acquainted with all our most important varieties of the cultivated plant, especially *L. capitata*, *L. crispa*, *L. laciniata*, &c. The Roman family of the Lactucini was noted for its lettuce beds, (*Romani quidem in Valeria familia ob diligentem lactucarum curam Lactuini appellant.* Plin., 19, 4.) At the present day the lettuce plant is distributed, not only over the whole of Europe and Asia (Cochin China, Northern China, and Japan), but also over all other parts of the world. Schultz, quite recently, has been inclined to recognize the parent plant of *Lactuca sativa*, L., in specimens brought by Th. Kotschy, from the savannas of Cordovan.

The origin of the Endive (*Cichorium endivia*, L.) is somewhat doubtful. It is a widely-distributed plant, but is distinguished from the closely allied chicory or succory (*Cichorium intybus*, L.) chiefly by its