The University of Hawai‘i at Mānoa is home to more than 560 kinds of trees and plants. They intrigue campus visitors and provide students and professors with a living botanical laboratory. Follow the route from Bachman Hall to the East-West Center to view some of the beautiful campus flora. Please allow about 1–2 hours to complete the tour.

1. Mondo grass or lily turf, Ophiopogon japonicus (Thunb.) Ker-Gawl.
2. Pritchardia palm, Pritchardia thurstonii F. Muell. & Órdu.
5. Lantana, Lantana camara L.
6. Pink shower tree, Cassia grandis L. f.
7. Cannonball tree, Couroupita guianensis Aubl.
8. Plumeria tree, Plumeria rubra L.
9. Indian rubber tree, Ficus elastica Roxb. ex Hornem. cv. doescheri
10. Magnolia, Magnolia grandiflora L...
12. Panama hat palm, Carlotodica palmata R. & P.
13. Klawe tree, Prosopis pallida (Humb. & Bonpl ex Willd.) HBK.
14. Screw pine, Pandanus sp.
15. Mindanao gum, Eucalyptus deglupta Bl.
16. Sandbox tree, Hura crepitans L.
17. Wild chaitagne, Pachira insignis (Sw.) Šavigny
18. Kou, Cordia subcordata Lam.
19. Okari nut, Terminalia kaembchali Warb.
21. White sapote, Caesimiroa edulis La Llave
23. Pink trumpet, Tabebuia rosea A. Broteloni) A.P. De Candolle
24. Tiare or Tahitian gardenia, Gardenia taitensis DC.
25. Skunk tree, Sterculia foetida L.
26. Royal poinciana, Delonix regia (Bojer ex W.J. Hooker)
27. Cuban royal palm, Roystonea regia (Kunth) O.F. Cook
28. Kamehi palm, Calophyllum inophyllum L.
29. Octopus or umbrella tree, Schefflera actinophylla (Endl.) Harms
30. Port Jackson fig, Ficus rubiginosa Desf. ex Ventenat
31. Areca palm, Dypsis lutescens (H. Wendland) Beentje & J. Dransfield
32. Blue latan palm, Latania loddigesii Mart.
33. Bo tree, Ficus religiosa L.
34. Gru gru palm, Acrocomia aculeata (Jacquin) Loddiges
35. Loulu, Pritchardia arecina sp.
36. Southern Washingtonia, Washingtonia robusta H. Wendl.
37. Coconut palm, Cocos nucifera L.
39. Weeping fig, Ficus benjamina L. var. nuda (Miquel) M.F. Barrett
40. Sausage tree, Kigelia africana Benth.
42. Lucuba palm, Dypsis madagascariensis (Becchi) Beentje & J. Dransfield (Becc.) Jumelle & Perrier
43. South American royal palm, Roystonea oleracea (Jacq.) O.F. Cook
44. Dead rat tree, Adansonia digitata L.
45. Tamarind tree, Tamarindus indica L.
46. Fiji fan palm, Pritchardia pacifica Seem. & H. Wendl.
47. Hemigraphis, Hemigraphis alternata (Burm. f.) T. Anderson
48. Hut, Barringtonia asiatica (L.) Kurz
50. Rain or monkeypod tree, Samanea saman (Jacq.) Murr.
51. Formosa koa, Acacia confusa Merr.
52. Baker's shower tree, Cassia bakeriana Craib.
53. Olive tree, Olea europaea L.
54. Gold tree, Tabebuia donnell-smithii Rose
55. Bombax tree, Pseudobombax ellipticum (HBK) Dug.
56. Guiana chestnut, Pachira aquatica Aubl.
57. Flame tree, Brachychiton aervifolius (A. Cunn ex G. Don) Macarthur
58. Loquat tree, Eriobotrya japonica (Thunb.) Lindl.
60. Surinam cherry, Eugenia uniflora L.
61. Monster, Monstera delicious Liebm.
62. Coffee, Coffea arabica L.
63. Pikake, Arabian jasmine, Jasminum sambac (L.) Ait.
64. Guava, Psidium guajava L.
65. Mamey sapote, Pouteria sapota (Jaccq.) H.E. Moore & Steam
66. Alspice, Pimenta dioica (L.) Merr.
67. Cassia tree, Cinnamomum burmannii (C. Nees) Blume
68. Rainbow shower, Cassia x nealiae H. Irwin & Barneby
69. Grand cumin lily, Crinum asiaticum L.
70. Star jasmine, Cassia multiflora (Burm. f.) Andr.
71. Chinese banyan, Ficus microcarpa L. f.
72. Singapore plumeria, Plumeria obtusa L.
73. Yellow strawberry guava, Psidium cattleianum Sabine f. lucidum Deg.
74. Autograph tree, Clusia rosea N. Jaccquin
75. Yeddo Hawthorne, Rhaphiolepis umbellata (Thunb.) Makino var. integerrima (W.J. Hook & Arn.) Rehder
76. Mistletoe fig, Ficus deltoidea Jack
77. Crepe gardenia, paper gardenia, Tabernaemontana diversifolia (L.) R. Br.
78. Japanese pittosporum, Pittosporum tobira (Thunb.) Alt. f.
79. Azaleas, Rhododendron macrosepalmum Maximowicz
80. Juniperus chinensis L.

Trees with identifying plaques are indicated with an *.
Begin the tour in the courtyard of Bachman Hall. *Mondo grass*, or *lily turf* (1) tills the patio. The popular *Pritchardia palms* (2), standing in opposite corners, have fan-shaped leaves and hanging clusters of fruits. The other palms are *Muusawa palms* (3). Both are from Fiji. The large, tree-like *white bird of paradise* (4) near the flagpole is named *Strelitzia* in honor of Charlotte Sophia Strzelit, wife of England's King George III. The orange-and-yellow flowered shrubs along the edge of the lawn are *lantana* (5). In Hawai'i, this prickly plant is both a popular ornamental for its abundant, attractive flowers, and a troublesome weed, growing to heights of 15–20 feet in pastures and forests.

Walk back across the courtyard and through the covered walkway. Just as you emerge, on the left, is a *pink shower tree* (6). It has deep pink flowers during the brief flowering period, and long, heavy, woody pods at other times of the year. Look for the *cannonball tree* (7) about 75 yards across the grass to the left toward University Avenue. A member of the brazil nut family, it bears sweetly scented, pink-shaded flowers on a tangle of stems around the trunk. Its hard, round, brown fruit suggests its name, but this particular tree rarely bears fruit.

Proceed across the crosswalk and up the pathway past variously colored *plumeria trees* (8) of the West Indian species *Plumeria rubra*. The darkest red ones close to what is called "red plumeria" and the yellow are often called "gravyard yellow" because they were frequently planted in graveyards after being introduced to Hawai'i in 1860.

Climb the steps ahead, then turn left up onto the walk fronting Sinclair Library. Veering to the right, the tree directly in front with a large, spreading crown is a variegated form of the *Indian rubber tree* (9). In the planter by the library entrance grow three small *magnolia* (10) trees, which never grow as large in Hawai'i as in the southeastern U.S.

Turn right and continue past the brick planter-benches. On the right side is the more commonly planted *bird of paradise* (11). On the left are two large 8- to 10-foot tall clumps of plants with leaves resembling fans and used in making the famous Panama hats.

*Panama hat palms* (12) actually belong to the Cycas family and are native to South America.

The largest tree with sinewy limbs and fine foliage that is behind and towering over the bulletin boards is a *kiawe tree* (13). Kiawe is native to Peru. All those in Hawai'i are said to descend from one tree, an unpleasant odor reminiscent of stale tobacco is evident, it is from the red-and-yellow flowers of the *skunk tree* (25). The tree has leaves cut to the base in 5–11 oval leaflets. The seeds in its scarlet fruit can be eaten raw or roasted, but have a purgative effect if eaten in quantity. Just to the right of the skunk tree is a *royal poinciana* (26). This tree has a flat to rounded crown bearing brilliant orange-red flowers during the spring and summer months. To the right, in front of George are *Cuban royal palms* (27), planted by the graduating class in 1926.

Walk the length of the quad, named for the area between the five buildings that once comprised the entire College of Hawai'i. Note numerous *kamani trees* (28) from tropical Asia with rough bark, glossy dark-green leaves and small, white flowers. Kamani may have been brought to Hawai'i by migrating Polynesians.

Just around the far corner of Crawford Hall is an *octopus*, or *umbrella tree* (29) from Australia. The red fruits on long flower branches resemble tented octopus arms. Leaves, too, radiate from a central point, like umbrella panels.

A snack concession stand and a bench affords a resting spot beneath the *Port Jackson fig* (30), one of only three fig species that produce viable seeds in Hawai'i. Face Hawai'i Hall. Large, clumping palms on either side of the stairway are *areca palms* (31) from Madagascar, among the most commonly planted palms in Honolulu.

Walk to the left toward the Student Services Center. The path winds between a group of *blue latan palms* (32) from the Mascarene Islands. They feature large, stiff, bluish-gray, fan-shaped leaves. The fruits are filled with attractive seeds eagerly sought by seed craftsmen.

Fronting the Student Services Center is the thick-trunked *bo tree* (33), sacred tree of Buddhism. Prince Gauama received his enlightenment under such a tree. It is said the heart-shaped leaves still tremble in remembrance of his divine meditations. The oldest known specimen grows in Ceylon, transplanted there from India in 288 B.C. The tree on campus was planted by the first graduating class (1912).

Follow the walkway along Hawai'i Hall, built in 1911. Several species of fan- and feather-leaved palms are planted nearby. On the right side of the steps to the entrance are two feather-leaved palms with conspicuous rows of spines on the trunks. These are *gru hapal palme* (34). Pass the steps and just to the left after crossing the intersecting walk are two fan-leaved *loulu* (35), one of Hawai'i's very few native palms. This species was discovered in 1911 on the northern slope of Haleakalā on Maui. Directly behind and between is the much taller fan-leaf palm known as *southern washingtonia* (36). Named for George Washington, *Washingtonia* is the only palm genus native to California. On the left, near the road is a grove of *coconut palms* (37), known as *niu* to the Hawaiians, who used virtually all parts of the plant. Still important in the world-market, the coconut tree of the Polynesians. In some areas of the Pacific, the seed is crushed, mixed with water and thrown into tidal pools or quiet streams to stupefy fish for easier catching. Past Bilger Hall on the right, just before the vending kiosk, is a tree with light green leaves and clusters of tiny, white flowers and hard, round, green fruits. *Kukui* (49) is the Hawai'i state tree. Hawaiians set roasted nuts in hollow bamboo or strung them on a midrib of coconut to burn for light or extracted oil for use with a tape wind in stone lamps. Dyes, from copper to black, were made from various tree parts, and jewelry was fashioned from highly polished nuts.

Walk toward the steps to Hamilton Library. Note the double row of rain trees in the mall. Known here as *monkeypod trees* (50), their wide, green canopy provides shade, their light and dark wood material for making bows. Moths threatened Hawai'i's rain trees shortly after World War II, but these pests have been partially controlled by the introduction of a parasite—an example of biological control.

At the top of the steps, on the left, are *Formosa koa* (51). In the spring these trees produce abundant, fragrant, bright-yellow flower heads. The Hawaiian Sugar Planters' Association brought koa from the Philippines and Taiwan as early as 1915. During April and May, *Baker's shower tree* (52) from Thailand, located to your right inside the bulletin board area, sports large, pale pink flowers.

Turn right toward Henke Hall and pause. In the grassy area on the right are four *olive trees* (53) from the Mediterranean. Olives have been cultivated for more than 4,000 years for cured fruit and oil. Although flowers rarely develop in Hawai'i, the leaves are grown as ornamentals for their narrow, dull-green leaves with silvery undersides. The first two trees on the left side of the walk are more examples of mahogany.

Continue to Henke Hall. To the left of the building's entrance are two tall *gold trees* (54) that produce a profusion of bright yellow, trumpet-shaped flowers, usually in the spring. In Hawai'i, some trees blossom sporadically. Right of the entrance are two spreading *bomax trees* (55) from tropical America. These particular trees bear large white flowers in the spring when the limbs are otherwise bare. Follow the walk to the right. On the right, sporting green bark, are three young *guiana chesnuts* (56), also from the bombax family. Unlike their bombax relatives, these trees blossom when the foliage is young and the fruit is yellow fruits 4-12 inches long, with large, rounded seeds that are edible raw or roasted. On the left is a medium-sized *flame tree* (57) from Australia, named for its large clusters of rich red flowers and also identified by its maple-like palmately lobed leaves.

Cross the mall to the steep bank behind the Earle Ernst Lab Theatre where a row of *loquat* (58) stands. A native of China and Japan, this evergreen tree is
which was grown from a seed brought from the Royal Botanic Gardens in Paris and planted at the Catholic Mission in downtown Honolulu in 1828. Unfairly considered a weed by many, kiawe may be the best tree for reforesting arid waste places. Its hard wood makes excellent charcoal.

Turn left at the bulletin boards. Between the Panama hat palms is a group of screw pines, or hala, (14) with prop roots, found throughout the Indo-Malay area, Australia and the tropical Pacific. The long, narrow, sharp-pointed leaves are made into mats, baskets, fans, sandals, pillows and house thatch. A tall Mindanao gum* (15) sports colorful orange- and green-streaked bark. The tree, introduced from Indonesia and the Philippines, is used in Hawaii for reforestation.

The path may be strewn with hard, flat, nearly circular, split seed cases an inch across, often used in jewelry. They come from two sandbox trees (16), one by the iampost and one in front of the other moped parking area.

Look for heart-shaped leaves about 6 inches long.

Continue toward University Avenue.

On your left is a tree with stout branches and a green-streaked knobly trunk called wild chataigne* (17). The bombax relative from the West Indies and tropical South America is also called the shaving-brush tree for its large flowers. The seeds within the large, brown fruit capsules are eaten raw or toasted; the flavor is similar to chestnuts.

The large tree in the center of the grassy area between the two wings of the building is the kou* (18). It has light yellowish-green leaves, round hard fruits and orange flowers, which are strung into leis. Closer toward the walk is the okari nut* (19), a tall pagoda-shaped tree with leaves clustered at the tips of the branches. To the right of the okari nut nearest the walk is the jack-in-a-box tree* (20), which has heart-shaped leaves and lantern-like fruits. At the very end of the walkway by the crosswalk is a broad-crowned white sapote* (21) with palmately divided leaves 5–8 inches or more in diameter. Its roundish edible fruits, yellowish when ripe, are sweet and juicy.

Cross the roadway to the path between the Architecture Building and Garite Hall, then pause to look back. The tree with small leaves and hard, pear-shaped pods on the front side of the road slightly to the left is mahogany (22), a favorite of furniture makers and shipbuilders. Pivoting to the left, note the small trees with bell-shaped pink flowers along the front side and near end of Garite Hall. These are pink tecomas (23). Against the building is a tall hedge of tia or Tahitian gardenia (24) from the Society Islands. The single gardenia has petals arranged like a pinwheel.

Continue along the uphill path past the Architecture Building. Upon reaching the corner of George Hall, look to the left. If an

place, coconut yields copra and an oil used in margarine, soap and cosmetic products.

Cross Campus Road. Two breadfruit trees* (38), with their long, divided, light-green leaves, are located to the right, just behind the railing. Breadfruit may have been introduced as early as the 12th century by Chief Kanai. It was called ‘ulu by native Hawaiians, who fashioned surfboards from its light wood, made an inferior grade of tapa from its bark and used its milky sap to ensnare the birds whose colorful feathers were made into ceremonial capes. About 25 yards behind the first breadfruit tree is a very large, spreading tree with exposed roots. This is a weeping fig* (39). Its orange-yellow colored figs are eaten by fruit bats in Trinidad.

Walk to the left along the railed walkway to the sausage tree* (40). It can be identified by its pendulous, long-stalked, sausage-like, nonedible fruit. The fruit is used as an external medicine in tropical west Africa. Directly behind stands an African tulip tree (41), which has erect clusters of large, bright orange, tulip-shaped flowers much of the year. It is known as baton de sorcier in Ghana; witch doctors are said to use the flowers for black magic. The first African tulip was brought to Hawaii about the mid-19th century.

Further along the walkway stands a group of lucuba palms* (42) from the Lucuba forest on an island off the northwest coast of Madagascar. A trio of South American royal palms* (43) is planted at the entrance to Miller Hall. They have larger leaves than the Cuban royal palm and a smooth, whitish trunk that may grow to 120 feet or more.

Ahead is the Art Building. Dominating the near side of the building is a large, swollen-trunked dead rat tree* (44). This tropical African tree gets its name from the long, oval, fuzzy fruits hanging from long stems. The tree’s leaves can be used for cattle fodder. In parts of Africa, the hollow trunks serve as a house, water reservoir or burial place. Providing a backdrop for the black sculpture up ahead are three tamariad trees (45), favorites for fruit and shade in their native Asia and tropical Africa. The velvety, reddish-brown pods contain a sugary, sweet-sour pulp rich in B vitamins and used in drinks, chutneys and medicines.

To the left of the steps leading down into the courtyard are two Fiji fan palms (46), South Pacific relatives of the Hawaiian loulu. The purple-leaved ground cover underneath is hemigraphis (47), a native of Java sometimes used medicinally in Malaysia for skin ailments and gallstones. (For an optional side trip, wander past graceful bamboo in the courtyard to the art gallery.)

Ahead on the left is a hutu* (48), with broad leaves, large woody fruits and white flowers that resemble shaving brushes. It is another util-

Dead Rat Tree

Surinam Cherry

plant for ornament and for the yellow fruits, which can be eaten raw or cooked. The creeping, yellow-flowered daisy relative on the bank is wedelia (59), a native of tropical America seen several places on campus.

Probably introduced to Hawaii in the early 1960s, it has rapidly become one of the most popular ground covers for residential and highway use.

Return to the side of Henke Hall facing Kennedy Theatre, finding the walkway adjacent to the tall gold tree* by the power transformers. On either side of the steps is the surinam cherry (60), a Brazilian shrub or small tree with leaves 1–2 inches long. In the spring, it produces an abundance of red, pumkin-shaped, edible fruits. From the top of the steps, you can see the large monstera vine (61) beneath the gold tree. It has distinctive lobed and perforated leaves and a fruit that is edible when ripe. The Central American native is a member of the same family as the anthurium. Next to it, close to the walkway, possibly trimmed into a hedge, grows a columnar clump of Arabian coffee plants (62), with dark green, waxy-edged leaves 3–6 inches long.

Fragrant white flowers cover the plants during the summer, red mature fruits in the fall. Arabian coffee was brought to Hawaii in 1817 and first commercially planted in 1845 in upper Mānoa Valley. The Big Island’s Kona district is the only area in the United States where coffee is grown commercially.

Ahead, against the building, is a somewhat ungrainy shrub with oval, paired leaves and sweet-scented white flowers. It is called pikake (63) in Hawaii, where it is a favorite in lei.

Elsewhere it is known as Arabian jasmine.

Enter the courtyard between the wings of Henke. Just before the intersection of the first hallway is a tree leaning away from the walk. This is perhaps the most common wild fruit tree in Hawaii, the guava (64). Brought from tropical America early in the 19th century, it was common by 1830 and could be found growing wild by 1850. Look for the guava’s smooth, mottled trunk and fruits that resemble lemon in size, shape and color. The fruits contain more vitamin C than oranges. Further down the walk, just before the second hallway, is the mamey sapote* (65). The large, orange, egg-shaped,
sweet-flavored fruits are eaten raw or made into marmalade, jelly, sherbet and ice cream.

Next along the corridor, just beyond the second hallway, is allspice (66), an evergreen tree from the West Indies and Central America identified by whitish, mottled, peeling bark. The spice is derived from the dried, fully grown but unripe fruit. Fragrant, with a pronounced pungent flavor, it is called allspice because it tastes and smells like a combination of cinnamon, nutmeg and cloves. At the end of the corridor is a _cassia tree_ (67). It has small, dark green leaves with three prominent veins. The bark of this southern Chinese tree yields the spice cassia, which forms the bulk of the “cinnamon” imported by North American merchants. Cassia has almost entirely replaced true cinnamon in the United States. Exit the covered walkway. Turn right and walk along a path lined with _rainbow showers_ (68). These are hybrids of the golden shower and pink-and-white shower. The flowers, seen in late spring through summer, vary in color from pale yellow to cream to orange to red.

Turn right on East-West Road. Along the building is a large planting of _grand crinum lily_ (69), called _spiderlily_ or _pua lilii_ here. It is not a lily at all, but an amaryllis relative.

Cross the street to Lincoln Hall, which is fronted by a hedge of _star jasmine_ (70). Through most of the year, this downstemmed climber is easily recognized by its white, star-shaped flowers. Follow the sidewalk to the right, past the Thai Pavilion. _Chinese banyan_ (71), called laurel fig in other parts of the world, surround the pavilion. Birds eat the figs, scattering seeds wherever they perch. When a seed sprouts in the crevice of another tree, the Chinese banyan grows aggressively, eventually strangling its host.

Several _Singapore plumeria_ (72) grow next to the flagpoles at Jefferson Hall. Native to the West Indies, this plumeria acquired its name because it was brought to Hawai‘i from the Singapore Botanic Gardens by Harold L. Lyon in 1931. It has glossy, dark green foliage and large white flowers.

A variety of shrubs and trees can be seen in the Japanese Garden from the patio behind Jefferson Hall. Begin by the stairs’ metal railing and work along the concrete railing.

Very near and behind the donor plaque are two specimens of _yellow strawberry guava_ (73), a native of Brazil, easily recognized by its oval, dark green leaves and smooth, mottled, reddish-brown stems. Wrapped around one of the guava trees, is an _autograph tree_ (74), noted for its large, spatulate, very stiff leaves. Next find the tall tree with pendulous, long wooden pods. This pink shower tree was planted by then Crown Prince Akihito of Japan. Near the stream is another Formosa koa, with narrow leaves and branches reaching overhead near the railing.

Proceed along the railing to a point midway between the first two pairs of pillars of Jefferson Hall. Directly below, on the near side of the stream, is a large clump of a member of the rose family, the _Yeddo hawthorne_ (75). It is a low shrub with rounded leaves that are dark-green above and lighter beneath. Its fragrant white flowers appear in dense clusters in spring and summer. Directly across the stream, just in front of a trio of small strawberry guava trees, is a more diffusely branched shrub bearing tiny yellow figs. This is a _mistletoe fig_ (76), a well-suited potted plant for protected patios.

Behind and to the right of the guava trees is a cluster of several _crepe gardenia_ (77) shrubs with shiny, green leaves and scentless, white, pinwheel-like flowers about 2 inches wide. Sometimes called paper gardenias, they superficially resemble, but are not related to true gardenias. To the left of the Formosa koa are three shrubs with dark green, blunt-tipped, leathery leaves 2–4 inches long. Left alone, _Japanese pittosporum_ (78) will grow 10 feet tall or more, but it is usually clipped into a hedge or dense, compact shrub. Toward the top of the slope to the left is a row of _azalea_ (79) shrubs with pale pink to red, trumpet-shaped flowers. Directly below the concrete railing and scattered along the stream are shrubs of low-growing _juniper_ (80).

Be still trees (81) line the far side of the garden under the edge of the canopy of monkey pod and other large trees along Mānoa Stream. This small tropical American tree has long, very narrow leaves and yellow trumpet-shaped flowers. All parts of the plant are poisonous.

**MORE ABOUT PLANTS**

Visit the Department of Botany courtyard collection at St. John Hall, corner of East-West Road and Maile Way, or visit the website http://www.botany.hawaii.edu/carr and link to Mānoa campus plants.

A variety of undergraduate and graduate courses are offered by the botany department. One, Botany 160, focuses specifically on the identification of common tropical species found on the Mānoa campus.

A larger variety of species grows in a lush tropical setting at the University’s Harold L. Lyon Arboretum in upper Mānoa Valley.

**GENERAL CAMPUS TOUR**

A guided general campus tour leaves Campus Center Mondays, Wednesdays and Fridays at 2 p.m. A self-guided campus tour is also available. Call (808) 956-7235 for information.

Mahalo to the Women’s Campus Club, whose generous donation made this brochure possible.

Revised and updated by Gerald D. Carr, professor of botany.

Published by University Relations—Media & Publications.

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