

Palms in the landscape, XIV – Phoenix: The date palms, Part 3 – key to species, and *P. canariensis* and *P. dactylifera*

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Key to Species of More Common Landscape *Phoenix*

This key identifies the more common landscape species of *Phoenix* in California, Hawai'i, southern Nevada, and western Arizona. Species found primarily in botanical gardens or private collections, such as *P. acaulis*, *P. paludosa*, and *P. theophrasti*, are not included but are discussed later under Other Species.

1. Habit clustered (multiple trunks or stems).
 2. Plants small, typically less than 15 feet tall.
 3. Pinnae soft, abaxially with white ramenta (scurfy hairs) on midrib; trunk to 4 inches DBH, with protuberant remnants of leaf bases *P. roebelenii*
 3. Pinnae stiff, abaxially without white ramenta (scurfy hairs) on midrib; trunk to 10 inches DBH, not with protuberant remnants of leaf bases *P. loureiroi*
 2. Plants medium to large; typically more than 20 feet tall.
 4. Leaves dark glossy green, pinnae abaxially with white ramenta (scurfy hairs) on midrib *P. reclinata*
 4. Leaves variously glaucous, pinnae abaxially without white ramenta (scurfy hairs) on midrib *P. dactylifera*
1. Habit solitary (single trunk or stem).
 5. Plants small, typically less than 15 feet tall.
 6. Pinnae soft, abaxially with white ramenta (scurfy hairs) on midrib; trunk to 4 inches DBH, with protuberant remnants of leaf bases *P. roebelenii*
 6. Pinnae stiff, abaxially without white ramenta (scurfy hairs) on midrib; trunk to 10 inches DBH, not with protuberant remnants of leaf bases *P. loureiroi*
 5. Plants medium to large; typically more than 20 feet tall.
 7. Plants large; trunk large (24-36 inches DBH) *P. canariensis*
 7. Plants medium; trunk medium (8-20 inches DBH).
 8. Pinnae dark glossy green, abaxially with white ramenta (scurfy hairs) on midrib, acanthophylls in one plane *P. rupicola*
 8. Pinnae grayish green or glaucous, abaxially without white ramenta (scurfy hairs) on midrib, acanthophylls arranged in several planes.
 9. Pseudopetiole to 20 inches long, acanthophylls closely spaced *P. sylvestris*
 9. Pseudopetiole more than 20 inches long, acanthophylls sparsely arranged *P. dactylifera*

More common landscape *Phoenix*
 Descriptions are from Barrow (1998), Hodel (1995, 1998), and, especially for *Phoenix dactylifera* and its varieties, Hodel and Johnson (2007).

Phoenix canariensis
Canary Island date palm

Habit: solitary, robust, massive, tree palm, moderately slow to 80 feet tall (Fig. 72).
Trunk: to 3 feet DBH, brown aging

black, marked with elliptic leaf scars, distally just below the canopy old leaf bases persist and these are often shaped or sculpted into a tight, compact structure referred to as a “ball” or “pineapple.”
Leaves: ascending to spreading to drooping, to 18 feet long, mostly flat, infrequently tilted; leaf base to 2 feet long, deeply split opposite petiole, margins fibrous; acanthophylls to 8 inches long, pointing in several directions, green aging to yellow; other

Figure 72. *Phoenix canariensis* is a massive yet regal palm (Centerpointe, La Palma, CA).





Figure 73. (Left) *Phoenix canariensis* has few peers for stateliness (MacArthur Court, Newport Beach, CA).



Figure 74. (Center) *Phoenix canariensis* makes an impressive statement in the landscape (MacArthur Court, Newport Beach, CA).



Figure 75. (Right) *Phoenix canariensis* is at its best here at the Newport Center in Newport Beach, CA.

pinnae ca. 200 on each side, to 12 × 1 inches, closely and mostly regularly arranged in mostly one plane, green.
Inflorescences: interfoliar, staminate to 3 feet long, cream-colored in flower but mostly hidden among leaves; peduncle 2 feet long; rachillae spreading to drooping; pistillate to 7 feet long, orange; peduncle to 6 feet long; rachillae spreading to drooping.

Fruit: to 0.8 × 0.5 inch, obovoid, yellow-green to golden yellow.

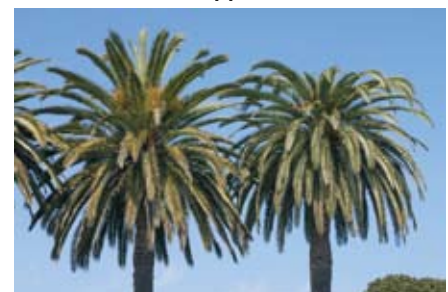
Ecology and distribution: in valleys along seasonally dry streams in open, rocky situations, Canary Islands, Spain.

Landscape adaptation: higher elevation, cooler areas in Hawai'i; coastal plains and valleys and inland valleys of California; low deserts of California, southern Nevada, and western Arizona; full sun; tolerates extreme heat, aridity, wind, cold; requires regular irrigation in desert areas but established plants need little or no ir-

rigation in coastal plains and valleys of California.

Notes: *Phoenix canariensis* is the most common large palm in California and the desert Southwest. With few peers for size, grandeur, and stateliness (Figs. 73-75), it is one of two iconic, signature palms for California (Fig. 76). Unfortunately, it is susceptible to two serious, fatal diseases: *Fusarium* wilt and sudden crown drop (see earlier under Cultivation and Landscape Management, Hodel 2012), and is listed officially as an invasive species in California and should be likewise for Hawai'i. It is also susceptible to magnesium and potassium deficiencies. There is a trend in this species for gender dimorphism in the shape of the canopy. Staminate plants tend to be flat-topped and the entire canopy is square or rectangle in shape while pistillate plants tend to have a rounded top and canopies are circular in shape (Fig. 77).

Figure 77. Canopies of *Phoenix canariensis* often exhibit gender dimorphism. Canopies of pistillate plants (left) tend to be more rounded while those of staminate plants (right) tend to be more flat-topped.



Phoenix canariensis is one of two iconic, signature palms for California. — Figure 76





Figure 78. (Left) Naturally *Phoenix dactylifera* is a clustered palm (Hyatt Newporter, Newport Beach, CA).



Figure 79. (Right) *Phoenix dactylifera* in the landscape are typically solitary because the basal offshoots have been removed, and with age they can become rather tall (Marriott Desert Springs Resort, Palm Desert, CA).

Phoenix dactylifera
date palm

Habit: variable, naturally clustered (Fig. 78) but usually solitary in the landscape, moderate, large-sized, tree palm, moderately slow to 70 feet tall (Fig. 79).

Trunk: to 20 inches DBH, brown, marked with diamond-shaped leaf

scars, often covered by persistent leaf bases distally, if clustered trunks on the periphery tend to lean outwardly in a picturesque manner.

Leaves: ascending to spreading to slightly drooping, to 16 feet long, flat to tilted; leaf base to 1 foot long, deeply split opposite petiole, margins fibrous; pseudopetiole variable in length among varieties; acanthophylls

to 8 inches long, pointing in several directions, gray-green; other pinnae to 130 on each side, to 35 × 2 inches, variously arranged and in up to 3 planes especially proximally, gray-green to gray, glaucous.

Inflorescences: interfoliar, staminate to 3 feet long, cream-colored; peduncle to 20 inches long; rachillae spreading to drooping; pistillate to 9 feet long, peduncle to 7 feet long; rachillae spreading to drooping.

Fruit: to 2 × 1.2 inches, variously shaped, yellow-green to orange, red, purplish brown, brown, or black.

Ecology and distribution: natural distribution unknown but likely around oases, seeps, springs, and seasonal water courses in the Middle East and northern Africa.

Landscape adaptation: dry areas of Hawai'i; coastal plains and valleys and inland valleys of California; low deserts of California, southern Nevada, and western Arizona; full sun; tolerates extreme heat, aridity, wind; cold; requires regular irrigation in desert areas but established plants need little or no irrigation in coastal plains and valleys of California.

Notes: Cultivated for millennia in the Middle East, Southwest Asia, and northern Africa, *Phoenix dactylifera* is unusually variable in habit, trunk, leaf, and fruit (Barrow 1998, Hodel and Johnson 2007). It is especially common in landscapes in California

Figure 80. (Left) Because commercial date orchards in California's Coachella Valley have been a reliable source of uniform and relatively inexpensive palms over the last 30 years, *Phoenix dactylifera* is now a common landscape subject (The Market Place, Tustin, CA).

Figure 81. (Center) These exceptionally well grown *Phoenix dactylifera* are impressive (11999 Harbor Blvd., Garden Grove, CA).

Figure 82. (Right) *Phoenix dactylifera* are natural subjects for hot, arid deserts and around water (Marriott Desert Springs Resort, Palm Desert, CA).





Figure 83. (Left) *Phoenix dactylifera* is used extensively in the Mediterranean climate of southern Europe (Mirado de Colon, Barcelona, Spain).



Figure 84. (Right) *Phoenix dactylifera* beautifies the Plaça Reial, Barcelona, Spain.

and the desert Southwest. The commercial date orchards of primarily the Coachella Valley in California have served as a reliable source of uniform and relatively inexpensive palms for the landscape industry over the last 30 years in California (Figs. 80-81), the desert Southwest (Fig. 82), and even as far away as Texas and Florida. It is also a popular landscape palm along the Spanish, French, and Italian Riviervas in southern Europe (Figs. 83-84) Date growers realized that they could grow these palms for 25 years or so and make money from date fruit production and then, when the palms attained a sufficient height, sell them into the landscape trade. Indeed, nearly all the impressive plantings in California, especially those in Orange County around Tustin, Irvine, and Newport Beach, were established during this period.

Because the landscape date palms mostly originate from fruit-producing orchards, nearly all specimens in cultivation are pistillate and there are few, if any, staminate plants of this species in the landscape to provide pollen. However, *Phoenix* is a promiscuous genus and the species are easily wind-pollinated; thus, nearly all the cultivated pistillate palms set fruits (which can be messy) (Fig. 85), their flowers pollinated by the chance staminate palm in the vicinity or other nearby species, like *P. canariensis*, *P. reclinata*, and *P. roebelenii*. Also, nearly all plants in the landscape lack basal trunk suckers or offshoots because they were removed to make new

orchard plantings. Typically, plants produce a set number of offshoots, which varies by variety (see below), and once they are removed the plant produces no more.

If clumping, judiciously remove trunks to control clump height, width, and density. The date palm appears susceptible to magnesium and boron deficiencies. It does not appear sus-

ceptible to *Fusarium* wilt; consider replacing *Phoenix canariensis* infected with *Fusarium* wilt with *P. dactylifera*, especially staminate plants because they have a more robust trunk and look more like *P. canariensis* than do pistillate plants (Fig. 86) (see below under staminate varieties of *P. dactylifera*).

About 3,000 varieties of *Phoenix dactylifera* are documented (Hodel and Johnson 2007). Most are pistillate varieties and, because they are vegetatively propagated from offshoots, each variety is a clone where all individuals of the same name are genetically identical. Nearly all pistillate or fruiting varieties originated in the Middle East or northern Africa and were imported into the United States in the early 1900s. Some American varieties have been developed, usually from chance seedlings from established pistillate varieties but some from formal breeding programs,

Figure 85. (Left) Despite being dioecious, nearly all the pistillate plants of *Phoenix dactylifera* in the landscape set fruits, which, while attractive, can be messy, their flowers pollinated by the chance staminate palm in the vicinity or other nearby species of *Phoenix* (California State University, Fullerton).

Figure 86. (Right) Staminate plants of *Phoenix dactylifera* are more robust and have larger canopies than their pistillate counterparts, making them a suitable substitute for *P. canariensis*, especially where *Fusarium* wilt is a problem (The Plantation, Indio, CA)



Key to Most Common Pistillate Varieties of *Phoenix dactylifera* in the Landscape

- Trunk short; distal pair of pinnae longer than immediately proximal ones ‘Khadrawy’
- Trunk tall; distal pair of pinnae shorter than immediately proximal ones.
 - Pseudopetiole long, $\frac{1}{4}$ - $\frac{1}{3}$ of blade length.
 - Acanthophylls 40-60 ‘Deglet Noor’
 - Acanthophylls 18-36.
 - Leaves mostly to 13 feet long with moderate glaucous bloom ‘Halawy’
 - Leaves to 14 feet or longer with light glaucous bloom ‘Honey’
 - Pseudopetiole short to medium, $\frac{1}{7}$ - $\frac{1}{4}$ of blade length.
 - Leaves conspicuously curved ‘Barhee’
 - Leaves mostly straight with little or no curvature.
 - Pinnae with heavy glaucous-gray bloom, appearing grayish ‘Zahidi’
 - Pinnae with only light glaucous bloom, appearing mostly olive-green ‘Medjool’

yet they account for just a miniscule fraction of the fruit production and palms available for the landscape. The three most common pistillate varieties in the landscape, from most to least common, are ‘Deglet Noor’, ‘Medjool’, and ‘Zahidi’, all imported varieties. ‘Medjool’ and ‘Zahidi’ are considered more attractive landscape subjects but ‘Zahidi’ has a tendency to produce multiple apical meristems and offshoots and subsequent aerial branches, which might have to be removed due to safety and esthetic concerns (see earlier under Pruning and below under ‘Zahidi’). **Table 1** summarizes characteristics of these three varieties and four others, ‘Barhee’, ‘Halawy’, ‘Honey’, and ‘Khadrawy’, which might also appear in the landscape but only rarely.

Distinguishing varieties of *Phoenix dactylifera* can be challenging. ‘Medjool’ and ‘Zahidi’ are the most distinctive and can usually be easily identified, which means most everything else must be ‘Deglet Noor’. However, while this scenario is mostly the case, cultivation and environment appear to affect leaf length and color of ‘Deglet Noor’, and a few rare varieties similar to ‘Deglet Noor’, like ‘Halawy’, ‘Khadrawy’, and perhaps ‘Honey’, and chance seedlings of intervarietal hybrids might infrequently appear in the landscape, adding to the confusion and making identification sometimes difficult and perplexing.

‘Barhee’

‘Barhee’ has a robust habit, thick

trunk, and long, stout, slightly to moderately curved leaves with unusually wide, slightly drooping pinnae (**Fig. 87**). The leaves have a pronounced whitish bloom (**Fig. 88**). The distinctive fruits are broadly ovate to rounded, and amber-colored, and are among the highest quality of all date varieties. It produces few offshoots, only about six to eight, over its life.

‘Deglet Noor’

‘Deglet Noor’, the most common variety in the landscape, has an open, airy canopy, slender trunk and habit, and unusually long, moderately curved, olive-gray-green leaves (**Figs. 89-90**). The unusually long pseudopetiole bears numerous acanthophylls and gives an open, airy appearance to the canopy. The narrow pinnae arise

Figure 87. (Left) *Phoenix dactylifera* ‘Barhee’ has a robust habit, thick trunk, and long, stout, slightly to moderately curved leaves (U. S. D. A. Germplasm Collection, Thermal, CA).

Figure 88. (Center) Leaves of *Phoenix dactylifera* ‘Barhee’ have a pronounced whitish bloom (U. S. D. A. Germplasm Collection, Thermal, CA).

Figure 89. (Right) *Phoenix dactylifera* ‘Deglet Noor’ is the most common variety of date palm in the landscape (Katella Ave. east of Harbor Blvd., Anaheim, CA).



Table 1. Characteristics of the Most Common Pistillate Varieties of *Phoenix dactylifera* in the Landscape (Hodel and Johnson 2007).

Character	Barhee	Deglet Noor	Halawy	Honey	Khadrawy	Medjool	Zahidi
Habit	robust	medium	medium	medium	short	medium	medium
Trunk	robust	slender	slender	medium	medium	medium	medium
Leaves	to 14.5 feet long, slight to moderate curvature, light elm-green with heavy glaucous bloom.	to 16.4 feet long, slight curvature, olive-green with light glaucous bloom.	to 13.1 feet long, slight to moderate curvature, hellebore-green with moderate glaucous bloom.	to 14 feet or longer, slight curvature, olive-green with light glaucous bloom.	to 12.5 feet long, moderate curvature, jade-green with only light glaucous bloom.	to 12 feet long, slight curvature, olive-green with light glaucous bloom.	to 13.8 feet long, little or no curvature, hellebore-green with very heavy glaucous bloom.
Pseudo-petiole	1/5 of blade	1/4-1/3 of blade	1/4-1/3 of blade	1/4 of blade	1/7-1/4 of blade	1/4 of blade	1/7-1/4 of blade
Acanthophylls	28-36	40-60	18-33	36	15-25	30-39	25-30
Pinnae (inches)	to 28 × 2	to 35 × 1.5	to 24 × 1.9	to 31.5 × 2	to 24.8 × 1.7	to 32.5 × 2	to 30 × 1.7
Apical divergence angle ^{o z}	80-95	65-85	—	85	—	55-75	60-80
Fruit stalks (length in feet)	9.5	6.5	5	6	5	5	5
Fruit (inches)	0.85-1.45 × 0.8-1.2, broadly ovate to rounded, amber.	1.6-1.95 × 0.8-1, oblong-ovate, brownish.	1.4-1.8 × 0.7-0.8, oblong, golden brown.	1.6-1.9 × 0.8-0.9, oblong-oval, reddish brown	1.3-1.6 × 0.8-0.9, oblong, reddish brown to nearly black.	1.5-1.9 × 1-1.25, broadly oblong-oval, reddish brown.	1.2-1.6 × 0.9-1, obovate, reddish brown and yellow.
Offshoots	6-8	3-12	10-15	6-12	15-20	15-20	15-20
Notes	Moderately open canopy; graceful, grayish green leaves; delicious fruit.	Very open, airy canopy; graceful grayish-green leaves.	Very open, airy canopy; graceful, bluish green leaves.	Similar to 'Deglet Noor'; open, airy canopy; graceful grayish-green leaves.	Short palms; moderately curved leaves with flat blades; apical pair of pinnae long and wide spread.	Rather dense canopy with stiff, ruffled leaves; delicious, large fruit.	Very dense, formal canopy with stiff, straight, gray leaves; often produces multiple apical meristem and then offshoots or branches in the canopy.

^zApical divergence angle is a measurement of the angle formed by opposite ranks of pinnae with the distal extension of the rachis 12 inches below the apex on the abaxial surface. It is indicative of how forward-pointing are the pinnae: the smaller the angle the more forward-pointing.



Figure 90. (Left) *Phoenix dactylifera* 'Deglet Noor' has an open, airy canopy of long, curved leaves (17900 Von Karman Ave., Irvine, CA).

from the blade in many planes. It produces few offshoots over its life, only about 3 to 12, and all within three feet of the ground. An impressive planting of 'Deglet Noor' is in the Anaheim Entertainment District along Katella Avenue near Disneyland and the Anaheim Convention Center (Fig. 89).

'Halawy'

A combination of characters dis-

Figure 91. (Left) Much like *Phoenix dactylifera* 'Deglet Noor', *P. dactylifera* 'Halawy' has an open, airy canopy but leaves are shorter and have broader pinnae (U. S. D. A. Germplasm Collection, Thermal, CA).

Figure 92. (Right) The American variety *Phoenix dactylifera* 'Honey' is also similar to *P. dactylifera* 'Deglet Noor' but has wider pinnae (Indio, CA).



Figure 93. (Center) *Phoenix dactylifera* 'Khadrawy' grows slowly and old palms are conspicuously shorter than those of other varieties (U. S. D. A. Germplasm Collection, Thermal, CA).

Figure 94. (Right) The distal pair of pinnae of *Phoenix dactylifera* 'Khadrawy' are distinctive because they are longer than the immediately proximal pinnae, giving a "fishtail" appearance to the end of the blade (U. S. D. A. Germplasm Collection, Thermal, CA).



tinguishes 'Halawy', including the open, airy canopy, somewhat glaucous-green, medium-long leaves with moderate curvature, and broad, stiff pinnae (Fig. 91). It produces 10 to 15 offshoots over its life. These have relatively small connections to the mother palm and are easily removed and root readily.

'Honey'

An American variety, 'Honey' is a seedling of 'Deglet Noor' that E. K. Duvall selected and planted on his property in the Coachella Valley in 1916 or 1917 (Hodel and Johnson 2007). Not surprisingly, it is similar to 'Deglet Noor' in its leaves and long, greenish yellow fruit stalks but differs in its wider pinnae (Fig. 92).

'Khadrawy'

One of the more distinctive of all date varieties, 'Khadrawy' grows slowly and old palms are conspicuously shorter than those of other varieties (Fig. 93). The moderately arched



Figure 95. (Left) Considered by many one of the most handsome of the date varieties for ornamental landscape use, *Phoenix dactylifera* 'Medjool' has a medium trunk and habit and a relatively small and dense canopy (1920 Main St., Irvine, CA).



Figure 96. (Center) Pinnae of *Phoenix dactylifera* 'Medjool' are densely set and conspicuously forward-pointing in several planes.

leaves, relatively few in number, have more or less flattened blades with short, rather stiff, closely and evenly set pinnae. The distal pair of pinnae are distinctive because they are longer than the immediately proximal pinnae, giving a "fishtail" appearance to the end of the blade (Fig. 94).

'Medjool'

'Medjool', considered by many one of the most handsome of the date varieties for ornamental landscape use, has a medium trunk and habit and a relatively small and dense canopy (Fig. 95). The short to medium, olive-green leaves with little glaucous bloom have



Figure 98. (Above left) Another impressive planting of *Phoenix dactylifera* 'Medjool' is at 8001 Irvine Center Dr., Irvine, CA.



Figure 99. (Above right) *Phoenix dactylifera* 'Medjool' grace a building at 18191 Von Karman Ave., Irvine, CA.

Figure 100. (Below left) The Huntington Beach Sports Complex on Goldenwest Street in Huntington Beach is home to *Phoenix dactylifera* 'Medjool'.

Figure 101. (Below right) *Phoenix dactylifera* 'Medjool' are better adapted for use along the immediate coast than most date varieties (500 E. Harbor Dr., San Diego, CA).



Figure 97. An impressive planting of *Phoenix dactylifera* 'Medjool' is at 20-40 Pacifica, Irvine, CA.

slight if any curvature and densely set, conspicuously forward-pointing pinnae in several planes (Fig. 96), giving the leaf an especially plumose or ruffled appearance. The small to medium but bright orange peduncles of the infructescences are especially conspicuous. It is a prolific producer of offshoots. 'Medjool' is reputed to be one of the best varieties for use near the coast.

The most impressive planting of 'Medjool' in California is at 20-40 Pacifica in Irvine (Fig. 97). Another nice planting is nearby at the WATG Building at 8001 Irvine Center Drive (Fig. 98). Other noteworthy plantings of 'Medjool' in Irvine are at Lakeshore Towers on Von Karman Avenue (Fig. 99) and at 1920 Main Street (Fig. 95). Other plantings of 'Medjool' are at Chapman University in Orange, The Palm Court on Slover Avenue in Fontana, the Huntington Beach Sports Complex on Goldenwest Street in Huntington Beach (Fig. 100), and at 500 E. Harbor Drive in San Diego (Fig. 101).

'Zahidi'

'Zahidi', perhaps the most handsome



Figure 102. Perhaps the most handsome of the date varieties for ornamental landscape use, leaves of *Phoenix dactylifera* 'Zahidi' have a dense, especially heavy glaucous bloom, making them appear unusually gray (1221 Placentia Ave., Anaheim, CA).

of the date varieties for ornamental landscape use, is distinctive on several counts. Although the trunk and habit are medium, the leaves have a dense, especially heavy glaucous bloom, making them appear unusually gray (Fig. 102). Stiff, somewhat

Figure 103. (Left) *Phoenix dactylifera* 'Zahidi' typically has a dense, formal canopy composed of stiff, somewhat upswept leaves. Note the telltale scars about mid trunk where apical offshoots have been removed (7777 Milliken Ave., Rancho Cucamonga, CA).



upswept, straight leaves with little or no curvature (Fig. 103) and a short pseudopetiole give the canopy a dense, compact, and formal appearance (Fig. 104). Also distinctive are dead, straw-colored leaf tips and/or scattered pinnae that mark the blade here and there (Fig. 105). The infructescences are unusually short with densely crowded fruits.

'Zahidi' produces up to 20 offshoots over its life, some as much as 20 feet or more above the ground. Indeed, the ability of "Zahidi" to produce these offshoots (multiple apical meristems and vegetative branches) up in the canopy (Fig. 106), while often characteristic of this variety, is one of the few drawbacks for landscape use. These aerial offshoots, which genetics and/or boron deficiency might cause, typically are removed because they detract esthetically from the formal appearance of the canopy and might fail and fall out, causing damage to people and property below. Such palms have the telltale rounded to oval, naval-like scars where off-

Figure 104. (Center) *Phoenix dactylifera* 'Zahidi' has a dense, formal canopy of stiff, gray leaves (The Citadel, Commerce, CA).

Figure 105. (Right) Another distinguishing character of *Phoenix dactylifera* 'Zahidi' is that a few necrotic pinnae typically mar the leaf here and there (center).



Figure 106. (Right) Perhaps the most distinctive character of *Phoenix dactylifera* 'Zahidi' is its tendency to form multiple apical meristems and offshoots (1800 Gridley Ave., Cerritos, CA).





Figure 107. (Left) Even when apical offshoots of *Phoenix dactylifera* 'Zahidi' are removed, the rounded, naval-like scars they leave are a telltale sign of this variety (1245 S. McClellan Dr., Los Angeles, CA).

Figure 108. (Center) Seaclyff Village Shopping Center in Huntington Beach, CA has an impressive planting of *Phoenix dactylifera* 'Zahidi'. Note the telltale scars in the 'pineapple' just below the leaves where apical offshoots have been removed.

Figure 109. (Right) Careful inspection of these tall *Phoenix dactylifera* 'Zahidi' show a dense center canopy crowded with apical offshoots (12800 Artesia Blvd. at the 91 Freeway, Cerritos, CA).

shoots were once attached high up on the trunk or among the leaf bases (Fig. 107). When removing these aerial offshoots, ensure that they are cut sufficiently proximal (below) or behind their apical meristem otherwise they will resprout and grow again.

The most impressive plantings 'Zahidi' can be seen in California at The Citadel, along Interstate-5 in the city of Commerce, southeast of Los Angeles; at Seaclyff Shopping Center on Goldenwest Street in Huntington Beach (Fig. 108); at Irvine Towers on Van Karman Ave., Irvine; and the south parking lot of the South Coast Plaza bordering Interstate 405 near Bear Street in Costa Mesa. Several other plantings, while not so impressive, have many palms with multiple aerial offshoots. These plantings are

near the Long Beach Aquarium in Long Beach; at the 183rd Street and Artesia Boulevard interchanges on the 91 Freeway in Cerritos (Fig. 109); and on Gridley Road just north of South Street in the Cerritos Mall, also in Cerritos (Fig. 106).

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The Biology and Management of Landscape Palms

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