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Key to Seedling Palms of Finca La Selva

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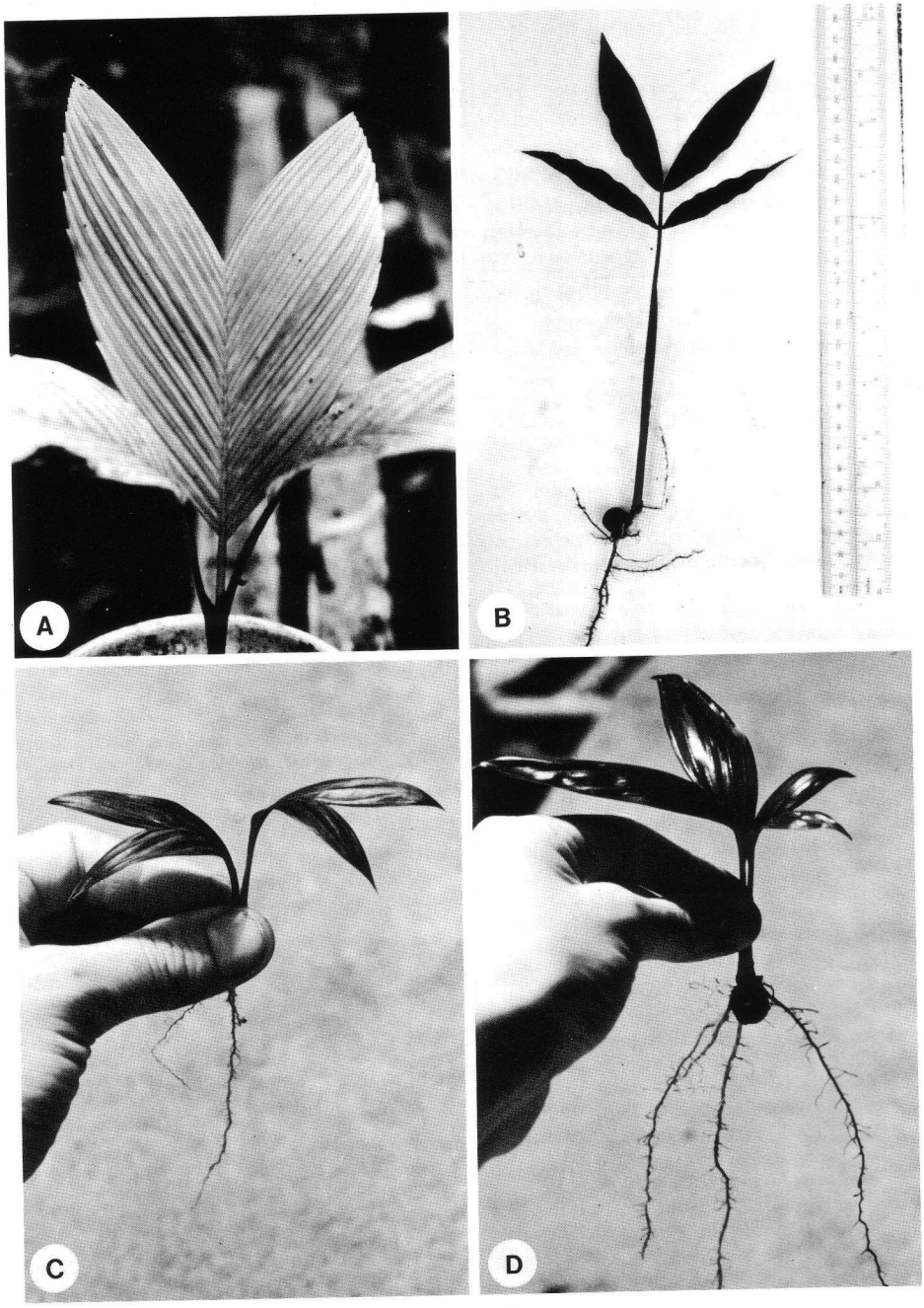
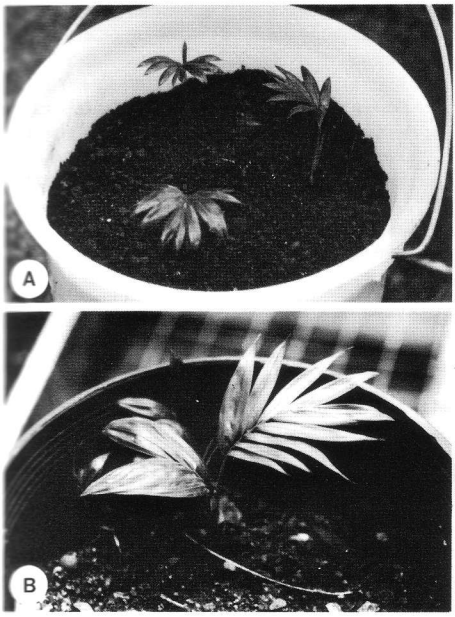
1. Spines present on petioles, rachis, veins, and/or leaf margins, sometimes minute 2
1. Spines absent from petioles, rachis, and leaf blade 10
2. Leaves with erect pubescence on both surfaces, soft and fuzzy in texture; lamina entire and bifid ..... *Bactris wendlandiana*
2. Leaves glabrous or with appressed pubescence, entire and bifid, or pinnately divided .. 3
3. Leaves white beneath; spines, if present, flattened 4
3. Leaves green beneath; spines, if present, not flattened 5
4. Lamina length more than twice the width; angle between the leaf tips less than 20°; upper leaf surface deep green ..... *Astrocaryum standleyanum*
4. Lamina length less than twice the width; angle between leaf tips more than 20°; upper leaf surface light green ..... *Astrocaryum alatum*
5. Leaves bifid 6
5. Leaves pinnately divided 7
6. Lamina length more than twice the length of the midvein (Fig. 1D) ..... *Bactris porschiana*
6. Lamina length less than twice the length of the midvein (Fig. 2B) ..... *Bactris* sp. nov. fide Moore
7. Pinnae length more than 10 times width; pinnae in clusters of 3–4 along entire length of rachis ..... *Bactris porschiana*
7. Pinnae length less than 10 times width; pinnae evenly distributed along length of rachis, or clustered only along lower half 8
8. Spines on leaf margins, often minute 9
8. Spines lacking on leaf margins (Fig. 1B) ..... *Desmoncus costaricensis*
9. Spines along margin prominent, 3 mm long or more; tips of pinnae long-protracted; terminal pinnae partially fused ..... *Bactris longiseta*
9. Spines along margin minute, less than 1 mm long; tips of pinnae not long-protracted; terminal pinnae distinct ..... *Bactris* sp. nov. fide Moore
10. Leaf white beneath; entire and lanceolate, or palmately divided ..... *Cryosophila albida*
10. Leaf green beneath; entire and ovate, bifid, or pinnately divided 11
11. Terminal or entire portion of leaf margin irregular and deeply scalloped 12
11. Terminal or entire portion of leaf margin entire or shallowly toothed, but not deeply scalloped 14
12. Terminal pinna or entire leaf unsplit, round-ovate in shape ..... *Iriartea gigantea*
12. Terminal pinna or entire leaf bifid 13
13. Petiole and rachis densely brown pubescent; angle between leaf tips more than 30° ..... *Socratea durissima*
13. Petiole and rachis with sparse pubescence; angle between leaf tips less than 30° ..... *Reinhardtia gracilis* var. *rostrata* *Reinhardtia simplex*
14. Leaf entire and lanceolate ..... *Reinhardtia gracilis* var. *rostrata* *Reinhardtia simplex*
14. Leaf bifid or pinnately divided 15
15. Leaf regularly divided into narrow, 1-ribbed pinnae 16
15. Lamina bifid or irregularly divided into broad, several-ribbed pinnae 18
16. Pinnae length more than 9 times width; rachis glabrous 17
16. Pinnae length less than 9 times width; rachis tomentose (Fig. 1B) ..... *Desmoncus costaricensis*
17. Leaf outline ovate–oblong in shape; tips of pinnae long-protracted (Fig. 2A) ..... *Prestoea decurrens*
17. Leaf outline hemispherical in shape; pinnae acute, not long-protracted; plant grasslike in appearance ..... *Euterpe macrospadix*
18. Lamina length more than 4 times length of midvein; young leaves flushing red ..... *Welfia georgii*
18. Lamina length less than 4 times length of midvein; young leaves flushing red or green 19
19. Leaf margin shallowly toothed, especially toward apex; petioles terete 20
19. Leaf margin entire; petioles terete or rounded below and flattened above 23
20. Lamina length less than 2.5 times length of the midvein 21
20. Lamina length more than 2.5 times the length of the midvein 22
21. Prominent yellow stripe below petiole; larger



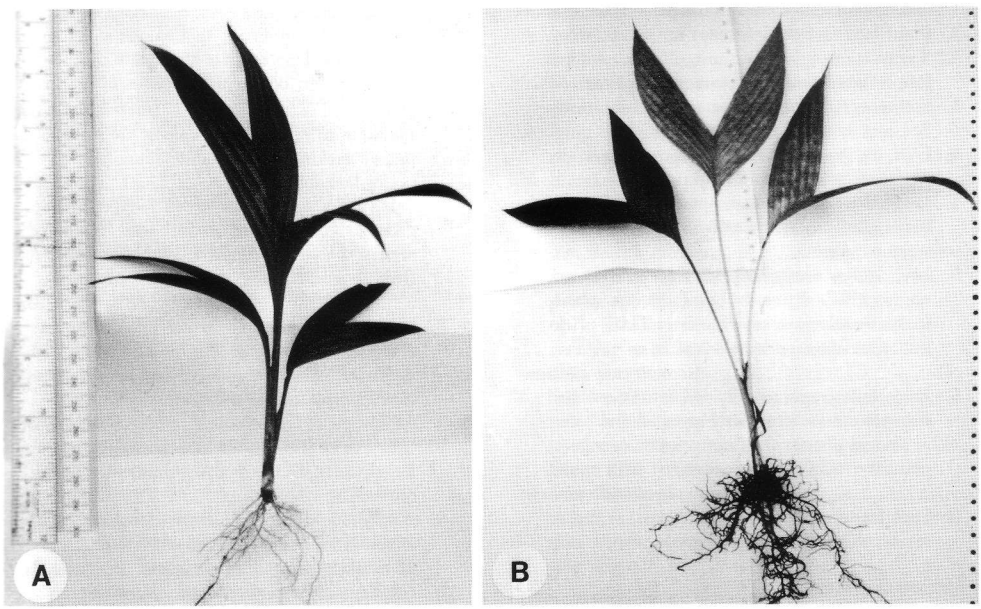
1. A. *Chamaedorea geonomiformis*; B. *Desmoncus costaricensis*; C. *Geonoma feruginia*; D. *Bactris porschiana*.



2. A. *Prestoa decurrens*; B. *Bactris* sp.

seedlings with pinnate leaves, the terminal portion of the lamina remaining unsplit ..... *Chamaedorea exorrhiza*

21. Petiole lacking a yellow stripe below; leaves always bifid (Fig. 1A) ..... *Chamaedorea geonomiformis*
22. Angle between leaf tips less than 40°; leaves with a pale white or green stripe below petiole ..... *Chamaedorea warscewiczii*
22. Angle between leaf tips more than 40°; petiole lacking pale stripe below (Fig. 3B) ..... *Synechanthus warscewiczianus*
23. Lamina length at least 3 times length of the midvein 24
23. Lamina length less than 3 times length of the midvein 25
24. Angle between leaf tips greater than 40° ..... *Geonoma interrupta*
24. Angle between leaf tips less than 40° ..... *Pholidostachys pulchra*
25. Angle between leaf tips less than 40° 26
25. Angle between leaf tips greater than 40° 27
26. Abaxial ribs yellow, raised from surface (Fig. 3A) ..... *Calyptrogyne sarapiquensis*
26. Abaxial ribs green, not prominently raised from surface ..... *Pholidostachys pulchra*
27. Adaxial ribs raised from surface, prominent; lamina not waxy in texture 28



3. A. *Calyptogyne sarapiquensis*; B. *Synchanthus warscewiczianus*.

27. Adaxial ribs not prominently raised from surface; leaves with a waxy texture 31
28. Lamina width at widest point less than ½ length of the midvein ..... *Asterogyne martiana*
28. Lamina width at widest point greater than ½ length of the midvein 29
29. Lamina length less than 2 times length of the midvein ..... *Geonoma congesta*
29. Lamina length greater than twice the length of the midvein 30
30. Leaves not papery in texture, pink-red when young; petioles with reddish-brown tomentum ..... *Geonoma deversa*
30. Leaves thin and papery in texture, green when young; petioles not tomentose ..... *Geonoma interrupta* *Geonoma oxycarpa*
31. Leaves wedge-shaped at base, red when young; larger leaves as wide below bifid split as above (Fig. 1C) ..... *Geonoma longevaginata* *Geonoma ferruginea*
31. Leaves long-attenuate at base, light green when young; larger leaves narrower below bifid split than above ..... *Geonoma cuneata*

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Key to the Palms of Finca La Selva, Costa Rica

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1. Leaves palmately divided, white below ..... *Cryosophila albida*
1. Leaves pinnately divided or undivided and pinnately ribbed, white or green below
2. Plants with spines on stem, leaf sheath, petiole, inflorescence, or on all parts 3
2. Plant lacking spines (except on stilt roots) 9
3. Stems climbing; uppermost pinnae modified into reflexed hooks ... *Desmoncus costaricensis*
3. Stems upright; uppermost pinnae not modified into hooks 4
4. Leaf blades whitish below; spines markedly flattened; robust subcanopy palms 5
4. Leaf blades green below; spines not markedly flattened; slender, usually clustered understory palms 6
5. Leaf blades irregularly divided into broad, many-ribbed segments borne in one plane; fruits densely covered with short, black prickles; trunk covered by old leaf bases ..... *Astrocaryum alatum*
5. Leaf blades regularly divided into one-ribbed segments, these irregularly grouped and borne in several planes; fruit not prickly, orange at maturity; trunk densely covered with spines ..... *Astrocaryum standleyanum*
6. Leaf blade softly pubescent below, entire or rarely divided basally; petiole and rachis unarmed or armed with stout spines; stems often less than 2 m in height and 1 cm diam. ..... *Bactris wendlandiana*
6. Leaf blade glabrous beneath, pinnately divided; stems more than 2 m tall and 1 cm in diam. 7
7. Pinnae with prominent thin spines along the margins and long caudate-acuminate tips; long spines present on rachis of leaves of mature plants ..... *Bactris longiseta*
7. Pinnae with minute spines along the margins; pinnae lacking long caudate-acuminate tips; rachis lacking spines 8
8. Small palm with glossy green foliage; pinnae grouped basally, more or less regularly arranged above the middle; long spines absent from lamina surface ..... *Bactris* sp. nov. fide Moore
8. Large palm with dull green foliage; pinnae clustered in small groups along rachis and displayed in several planes; long spines occasionally present on underside of pinnae ..... *Bactris porschiana*
9. Stilt roots present, or numerous, elongate, aerial, adventitious roots prominently developed 10
9. Stilt roots not prominently developed, but adventitious roots sometimes evident at base of trunk 14
10. Slender understory palms; pinnae sigmoid, 1- to several-ribbed; leaves with a pale stripe on lower surface of petiole and leaf base; crownshaft lacking 11

[1] This key was originally written by HEM, Jr. for use by students in field courses in Costa Rica. After he died modifications were made by RLC.