

# Eight New Species of *Ouratea* (Ochnaceae) from Mesoamerica

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**ABSTRACT.** Revision of the Ochnaceae for *Flora Mesoamericana* brought to light eight new species of *Ouratea*. These species are described here: *O. osaensis* and *O. rinconensis* from the Rincón de Osa area of Costa Rica, and *O. jefensis*, *O. knapiæ*, *O. darienensis*, *O. stenobasis*, *O. sulcatinervis*, and *O. tristis* from Panama.

The genus *Ouratea* consists of about 150 species from Central and South America, and the West Indies; they are woody, glabrous plants characterized by alternate, simple leaves, bright yellow bisexual flowers, and fruits composed of 1-seeded glossy, black drupelets borne on an enlarged, fleshy, purplish red receptacle or torus. Asian and African species formerly included in *Ouratea* have been transferred to *Gomphia* (Kanis, 1968). Riley (1924) reviewed the Mexican and Central American species of *Ouratea*, increasing the number of species in the region from 9 to 15. Dwyer (1944) believed there were 28 species of *Ouratea* from Mexico, Central America, and the West Indies, of which 17 occurred in Mexico and Central America. Dwyer (1944) listed six species of *Ouratea* occurring in Belize and Guatemala, whereas Standley & Williams (1961) thought there were only three, with an additional variety in one of these. Dwyer (1944) had believed seven species occurred in Panama, but when he reviewed the Panamanian Ochnaceae (Dwyer, 1967) he made great changes, accepting eight species, with only three names unchanged from his 1944 account. As these earlier revisions had shown such large changes in Central American *Ouratea*, a thorough generic revision was clearly needed for *Flora Mesoamericana*. Covering the area from southern Mexico (the states of Yucatán, Tabasco, and Chiapas) to the Panama-Colombia border, the present study revealed the following new taxa, and a total of 22 *Ouratea* species in Mesoamerica. Eight of these are new and are described here so that the names can be used in the *Flora Mesoamericana* treatment.

**1. *Ouratea darienensis*** Whitefoord, sp. nov.  
TYPE: Panama. Darién: above Cana on trail to top of ridge of Pirre Massif, forested slopes, 1,100–1,350 m, 3 May 1990, *McPherson 15033* (holotype, BM; isotype, MO). Figure 1.

Ab *O. nitida* (Sw.) Engl. foliis nervis secundariis manifestiore distinctis late et irregulariter dispositis, calyce minore laeviore, differt.

Trees 8–15 m high, with slender branchlets. Leaves (10.5–)15–21 × 4–7 cm, lanceolate to oblong or oblanceolate, the base cuneate or rounded, the apex acuminate; chartaceous to coriaceous, drying red- or greenish brown, slightly glossy and rugulose, the margin slightly revolute, crenate; venation impressed on both surfaces, with 8–13 pairs of major secondary veins arcuate-ascending, more clearly evident beneath; petiole 4–10 mm; stipules ca. 6 mm, caducous. Inflorescence 8–17 cm, axillary, paniculate, the rhachis conspicuously flattened, 1–4-branched, the lower branches 3.5–7 cm long; flowers solitary or paired, sometimes shortly pedunculate, well-spaced; pedicel 5–6(–7) mm, slender; sepals 5, 4–5 mm long, ovate-lanceolate, thinly coriaceous, the inner margins scarious, the sepals and pedicel smooth and shiny; petals 5, 6 mm long, broadly obovate, clawed; stamens 10, the anthers 4 mm; gynophore 0.5 mm; style 2.5–3 mm. Fruit not seen.

*Paratype.* PANAMA. DARIEN: Parque Nacional del Darién, slopes of Cerro Mali, headwaters of S branch of Río Pucuro, ca. 22 km E of Pucuro, 1,300–1,400 m, *Cuadros, Hammel, de Nevers & Herrera 3966* (BM, MO).

*Ouratea nitida* (Sw.) Engler also has leaves with the venation impressed on both sides, a paniculate inflorescence, and a calyx with five sepals. *Ouratea nitida* is, however, a smaller plant, rarely reaching 6 m, and grows at altitudes up to 400 m, whereas *O. darienensis* is a tree of about 8 m, found at the much higher altitudes of 1,300–1,400 m. *Ouratea nitida* occurs from southern Mexico to Nicaragua, Guyana, Cuba, and Jamaica, whereas *O. darienensis* is known only from the state of Darién, Panama.

**2. *Ouratea jefensis*** Whitefoord, sp. nov. TYPE: Panama. Panamá: forested slopes of Cerro Jefe, near large coffee fincas, 24 Jan. 1970, *Wilbur, Weaver, Foster & Correa 11318* (holotype, BM; isotypes, F, MO, US). Figure 2.

Ab *O. insulae* Riley foliis multo brevioribus, rhachide graciliore, floribus late dispositis pedicellis longioribus filiformibus, differt.

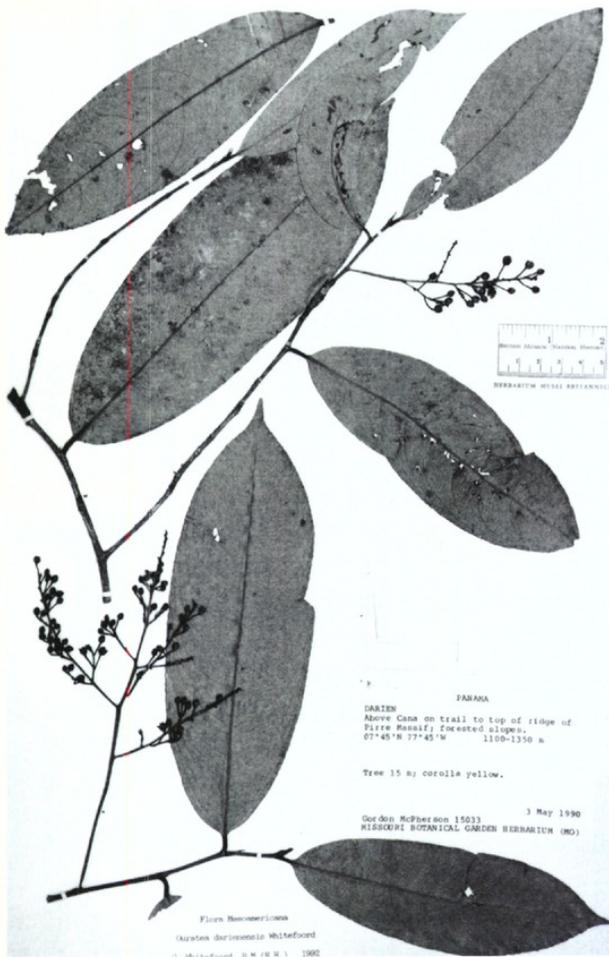


Figure 1. *Ouratea darienensis* (McPherson 15033, BM).

Shrubs or trees 3–8.5 m high, with slender branchlets. Leaves 8–11 × 2.5–4.5 cm, ovate-lanceolate or elliptic, the base cuneate or rounded, the apex acuminate; coriaceous, slightly glossy on both surfaces, drying greenish brown, the margin plane or slightly revolute, subentire or sometimes minutely toothed toward the apex, the teeth well-spaced; venation inconspicuous, the major secondary veins mostly 5–10 mm apart, arcuate-ascending, slightly raised above, the minor secondary and tertiary veins nearly straight, crowded, subparallel, immersed or scarcely raised on both surfaces; petiole 2–5 mm; stipules to 7 mm, caducous. Inflorescence to 10 cm, paniculate, terminal or axillary, usually broadly pyramidal; rhachis slender, smooth, with 1–3(–6) widely spaced, spreading, slender branches; flowers widely spaced, solitary or occasionally paired; pedicel (5–)10–12 mm, filiform; sepals 5, ca. 6 mm long, ovate-lanceolate, chartaceous, the inner margins scarious; petals 5, 8–9 mm long, broadly obovate, reflexed, falling before the sepals; stamens 10, the anthers 5 mm; gynophore 0.5–1.0 mm; style 4–5 mm, often flexuous. Torus 8–12 mm, obovoid; drupelets ca. 8 mm, subglobose to obovoid.



Figure 2. *Ouratea jefensis* (Wilbur, Weaver, Foster & Correa 11318, BM).

*Paratypes*. PANAMA. PANAMA: beyond Goofy Lake along road to Cerro Jefe, *Correa & Dressler* 473 (MO); Cerro Jefe, 2,700 ft., *D'Arcy* 12183 (MO); Cerro Jefe, *Duke* 9405 (MO); Cerro Jefe to La Eneida, 21–2,900 ft., *Duke, Dressler & Dwyer* 8191 (F, MO); 8 mi. S of Goofy Lake toward Cerro Jefe, *Dwyer* 7082 (MO); Cerro Jefe, to 3,100 ft., *Dwyer* 8482 (MO); summit of Cerro Jefe, 23 km N of Pan-American Hwy., 1,004 ft., *Folsom & Kearns* 2718 (MEXU, MO); Cerro Jefe, summit to 1 mi. beyond, *Gentry, Dwyer & Tyson* 3517 (MO); 800 m, *Gomez-Pompa, Quero & Gonzalez* 3059 (MEXU, MO); 750 m, *Gomez-Pompa, Quero & Gonzalez* 3550 (MEXU, MO); 12.5 km above Pan-American Hwy. on road from El Llano to Carti-Tupile, 350 m, *Kennedy, Correa & Dressler* 2489 (MO); NE of town of Cerro Azul, 20 km by road from Inter-American Hwy., *Mori & Kallunki* 3644 (MO); NE of town of Cerro Azul, 20 km by road from Inter-American Hwy., *Mori & Kallunki* 3656 (MO); slopes of Cerro Jefe between Cerro Azul and La Eneida, ca. 15 mi. NE of Panama City, *Wilbur, Almeda & Luteyn* 15568 (MO); slopes of Cerro Jefe beyond Cerro Azul between 4 and 8 mi., *Wilbur & Weaver* 11382 (MO).

*Distribution*. This species is known only from the Cerro Jefe area in premontane forest, from 350 to 954 m.

*Ouratea jefensis*, like *O. insulae* Riley from southern Mexico, Belize, Guatemala, and Honduras,

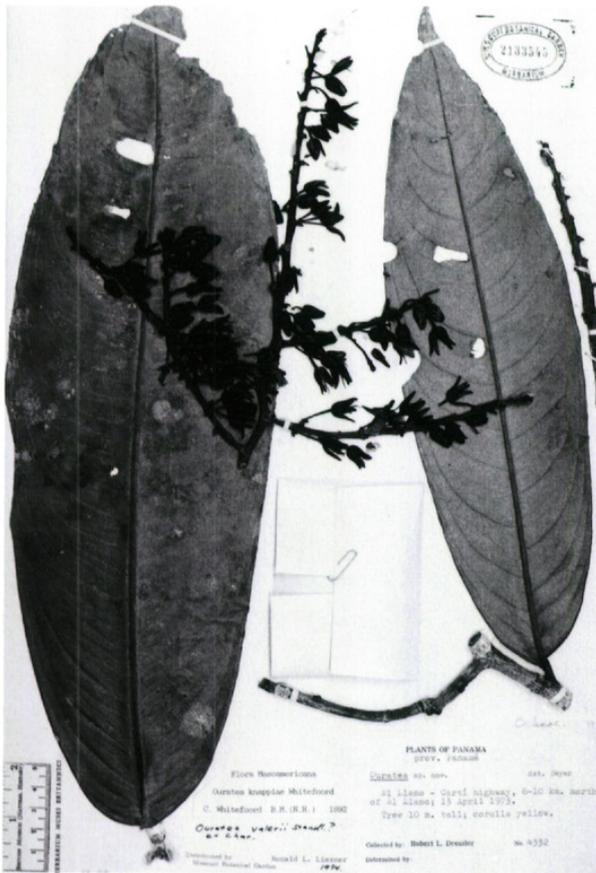


Figure 3. *Ouratea knappiae*, in flower (Dressler 4332, MO).



Figure 4. *Ouratea knappiae*, in fruit (Knapp & Schmalzel 5477, MO).

usually has a broadly pyramidal, paniculate inflorescence. *Ouratea insulae* differs in its much stouter rhachis and crowded flowers, the pedicels to 10 mm; *O. jefensis* has a slender rhachis, filiform pedicels (5–)10–12 mm, and well-spaced flowers. *Ouratea insulae* is a larger tree (to 25 m) with larger leaves (10–31 × 6–8 cm) than *O. jefensis*. Some specimens of *O. jefensis* have been determined as *O. cocleensis* Dwyer, now included in *O. prominens* Dwyer, a species with a 2-sepaled calyx from Nicaragua, Costa Rica, and Panama. Many herbarium specimens of *O. jefensis* have been labeled *O. lucens* (Kunth) Engl., a variable and widespread species. *Ouratea lucens* usually has a cylindrical inflorescence of crowded flowers on ascending pedicels (5–12 mm). Stipulelike scales, lacking in *O. jefensis*, tend to persist in clusters at the base of current growth in *O. lucens*. In *O. lucens* the leaves are larger (up to 29 cm long) and often obovate. This species is widely distributed, occurring from southern Mexico to Colombia, while *O. jefensis* is restricted to the Cerro Jefe region of Panama (after which it is named). *Ouratea lucens* is a very variable species, from which more taxa might eventually be split.

**3. *Ouratea knappiae* Whitefoord, sp. nov. TYPE:** Panama. Panamá: 8 km from Pan-American Hwy. on the El Llano–Cartí road, Río Teribe Valley, tropical wet forest, 300–400 m, 9 June 1982, Knapp & Schmalzel 5477 (holotype, MO; isotypes, BM, MEXU). Figures 3, 4.

*Ouratea valerii* Standley valde affinis, sed foliis crassioribus subtilitibus rugosis, toro minore, differt.

Trees 8–18(–25) m high, with stout branchlets, glabrous. Leaves (24–)30–40 × 6.5–10.5(–13) cm, narrowly oblong, narrowly elliptic or oblanceolate, the base rounded or sometimes cuneate, the apex acute, acuminate, or obtuse; stiffly and thickly coriaceous, minutely rugulose on both surfaces, drying reddish brown with a slight sheen, the margin revolute, subentire or sometimes crenulate-serrate toward the apex; venation inconspicuous with ca. 15–25 major and numerous minor secondary veins, widely arcuate-ascending, slightly impressed above and raised beneath, the tertiary veins crowded, spreading, immersed or impressed on both surfaces; petiole 5–10 mm, stout; stipules ca. 15 mm, sometimes persistent. Inflorescence 14–29 cm, terminal, broadly paniculate with ca. 4 stout branches, the

lowest branches to ca. 18 cm long; flowers often crowded, in stout-stalked clusters of 2–5; pedicel 10–14 mm, slender, incrassate upward; sepals 3(–5), when 3, 2 of the sepals with a deep longitudinal groove, 10–13 mm long, ovate-lanceolate, coriaceous, persistent, the inner margins scarious; petals 5, 11–18 mm long, obovate or oblong; stamens 10, the anthers to 12 mm; gynophore 1 mm; style 9–10 mm. Torus 5–10 mm, depressed-globose, the surface rough and wrinkled; drupelets to 15 mm, ellipsoid.

*Paratypes*. PANAMA. COLON: en la carretera a la zona maderera de Santa Rita, *Correa & Dressler 1206* (MO). PANAMA: El Llano–Cartí hwy., 6–10 km N of El Llano, *Dressler 4332* (MO); El Llano to Cartí road, 7.8 km N of Pan-American Hwy., *Folsom 3559* (MO); road from El Llano to Cartí, 7.4 km N of Pan-American Hwy., 300–500 m, *Folsom & Maas 5188* (MO); near border with Comarca de San Blas, along El Llano–Cartí road, ca. 340 m, *McPherson 9774* (BM, MO); El Llano–Cartí road, 8–11 km from Inter-American Hwy., 300–400 m, *Mori 7723* (MO); El Llano–Cartí road, 10.8 km from Inter-American Hwy., 1,100–1,200 ft., *Mori & Kallunki 4138* (MO); El Llano–Cartí road, 12.2 km from Inter-American Hwy., ca. 250 m, *Mori & Kallunki 6368* (MO); El Llano–Cartí road, 16–18.5 km by road N of Pan-American Hwy. at El Llano, ca. 400–450 m, *Nee & Tyson 11003* (MO); El Llano–Cartí road, 8–9 mi. from Pan-American Hwy., 250 m, *Sytsma & Andersson 4438* (MEXU, MO). SAN BLAS: El Llano–Cartí road, Km 19, 350 m, *de Nevers, Blake & Herrera 4235* (BM, MO); El Llano–Cartí road, 300 m, *de Nevers & Herrera 4235* (MO); El Llano–Cartí road, 26.5 km along Río Cartí Chico, 200 m, *de Nevers, Herrera & Charnley 5332* (MO).

*Distribution*. All collections seen are from tropical wet forest in the El Llano–Cartí and Santa Rita Ridge area, from 200 to 500 m.

Specimens of *Ouratea knappiae* have been identified as *O. valerii* Standley. *Ouratea knappiae* differs in the venation and the finely rugose texture of the leaves, and the smaller, depressed-globose, rough and wrinkled torus. *Ouratea valerii* has thinner, smoother leaves that dry a duller, more glaucous brown; the torus is 10–15 mm, obovoid to turbinate, and smooth. *Ouratea valerii* occurs in Honduras, Nicaragua, Costa Rica, and in Panama, west of the Canal, whereas *O. knappiae* is restricted to Panama, east of the Canal. *Ouratea knappiae* is named in honor of Sandra Knapp, one of the collectors of the type specimen.

**4. *Ouratea osaensis*** Whitefoord, sp. nov. TYPE: Costa Rica. Puntarenas: high road out of Rincón de Osa, Rincón to 5 km W of Rincón, secondary forest, 0–300 m, 13 Feb. 1974, *R. Liesner 2096* (holotype, MO). Figure 5.

Ab *O. pyramidalis* Riley foliis majoribus latiore ellipticis vel oblongis leviter nitidis, panicula brevior latiore,

pedicellis minute verrucosis, drupeolis multo minoribus, differt.

Shrubs 2–3 m high, with slender branchlets. Leaves 21–23 × 6.5–9 cm, broadly elliptic or oblong, the base cuneate or attenuate, the apex acuminate; subcoriaceous, slightly shiny above, dull beneath, drying grayish green or medium-brown, the margin plane, subentire to crenulate; venation crowded, obscure, major secondary veins ca. 12–18 pairs, irregularly spaced, widely arcuate-ascending, immersed or slightly raised or sulcate above, raised beneath, the minor secondary and tertiary venation scarcely raised on both surfaces; petiole 5–10 mm, stout; stipules not seen. Inflorescence ca. 5.5 cm, terminal, broadly paniculate, the lower branches to 7 cm; flowers solitary or borne in widely spaced, stalked clusters of 2–3; pedicel 8–11 mm, slender, the rhachis and pedicel finely striate and minutely prickly-verruculose; flowers not seen. Torus ca. 4 mm, subglobose, drupelets 3 mm, ellipsoid. The fruit characters are described from immature material.

*Paratype*. COSTA RICA. PUNTARENAS: Rincón de Osa, slopes adjacent to airport, disturbed primary forest, 20–300 m, *Liesner 1862* (MO).

*Ouratea osaensis* is perhaps most similar to *O. pyramidalis* Riley from southern Mexico, Belize, Guatemala, Honduras, and Panama and *O. insulae* Riley from southern Mexico, Belize, Guatemala, and Honduras, both of which also have paniculate inflorescences, but neither of which occurs in Costa Rica. *Ouratea pyramidalis* has smaller leaves (11–20 × 4.5–7 cm) with a dull surface and a variously toothed margin, whereas *O. osaensis* has a slightly shiny adaxial leaf surface and a subentire to crenate margin. *Ouratea pyramidalis* also has a larger inflorescence (6–18 cm long), with a smooth rhachis and laxer pedicels than *O. osaensis*. *Ouratea insulae* is generally larger, sometimes a tree to 25 m, with larger, more robust panicles (8–27 cm long) with stouter, more spreading branches than *O. osaensis*.

**5. *Ouratea rinconensis*** Whitefoord, sp. nov. TYPE: Costa Rica. Puntarenas: Reserva Forestal Golfo Dulce Osa Peninsula, Trocha de La Tarde road, 10 km SW of La Palma, S of Rincón de Osa, primary forest along red clay soil ridge E of the Río Rincón valley, 150–200 m, 28 Apr. 1988, *B. Hammel & R. Robles 16770* (holotype, BM; isotypes, CR, MO). Figure 6.

Ab *O. flexipedicellato* Dwyer foliis nervis secundariis numerosioribus regulatim dispositis acutiore arcuato-as-

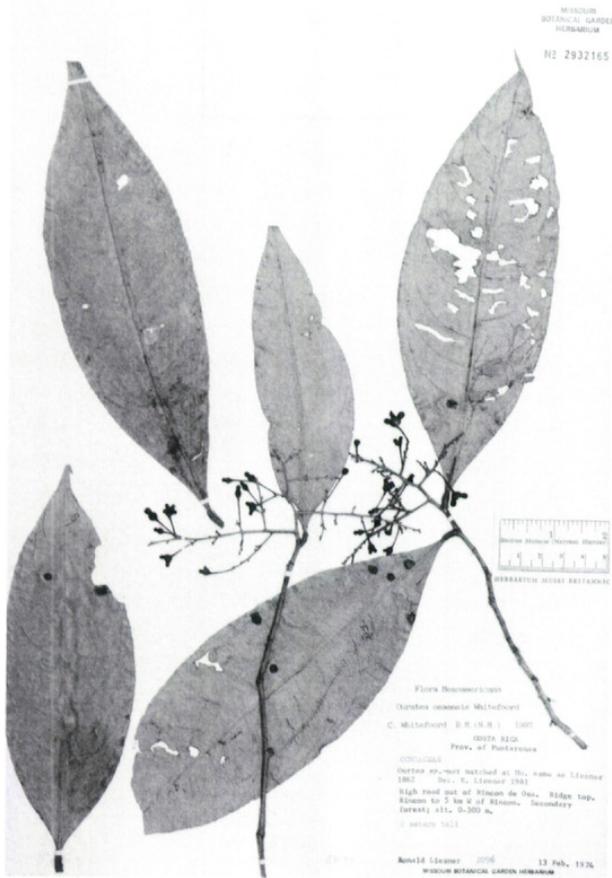


Figure 5. *Ouratea osaensis* (Liesner 2096, MO).



Figure 6. *Ouratea rinconensis* (Hammel & Robles 16770, BM).

cendentibus, calyce ex sepalis duobus tantum constante, differt.

Shrubs ca. 3.5 m high, with slender branchlets, glabrous. Leaves 19.5–23 × 5.5–7 cm, oblanceolate, the base cuneate or narrowly rounded, long-acuminate at the apex; subcoriaceous, the upper surface slightly shiny, drying reddish brown, the margin plane, crenate; major secondary veins 18–25 pairs, penniparallel, spreading-ascending, sulcate above, slightly raised beneath, the minor venation slightly raised on both surfaces; petiole 3–5 mm; stipules 10 mm, caducous. Inflorescence ca. 20 cm, terminating branchlets, narrowly and laxly paniculate, the rhachis slender, with 1–4 longer branches near the base, the lowest branch ca. 7 cm; flowers well-spaced, solitary or more usually in stalked clusters of 3(–5); pedicel 8–10 mm, incrassate upward, rhachis and pedicel smooth; sepals 2, 8 mm long, boat-shaped, coriaceous; flowers not seen. Torus 8 mm, obovoid; drupelets 11 mm, ellipsoid.

Known only from the type collection.

*Ouratea rinconensis* resembles the Panamanian species *O. flexipedicellata* Dwyer in leaf size and shape and its long, cylindrical inflorescences. The two species can be distinguished easily, because the

secondary leaf veins of *O. rinconensis* are penniparallel, whereas those of *O. flexipedicellata* are irregularly spaced along the midrib and crowded toward the margin. The flowers of *O. flexipedicellata* have five sepals, while those of *O. rinconensis* have two. *Ouratea rinconensis* is named after the type locality.

**6. *Ouratea stenobasis* Whitefoord, sp. nov.** TYPE: Panama. Bocas del Toro: Punta Peña, vicinity of Chiriquicito, rainforest, ca. 1,000 ft., 7 June 1967, Lewis, Escobar, MacBryde, Oliver & Ridgway 2173 (holotype, MO; isotype, MO). Figure 7.

Ab *O. flexipedicellata* Dwyer rhachidi breviora graciliora, foliis latiora ovatis nervis secundariis ordinatim penniparallelis, differt. Species foliis lamina basi subito contracta a congeneribus bene distincta.

Shrubs 3–4 m high, with slender flexuous branchlets, glabrous. Leaves 14.5–22 × 5.5–8.5 cm, broadly elliptic or oblong, abruptly narrowed into a 13-mm stalk at the base above the thickened, wrinkled petiole, the apex abruptly acuminate; chartaceous to subcoriaceous, with a dull sheen on both surfaces, drying yellowish brown or greenish, the

margin plane or slightly revolute, crenate, subentire toward the base; major secondary veins ca. 15–18 pairs, arcuate-ascending, penniparallel, sometimes impressed on the upper surface, raised beneath, the minor tertiary venation spreading, immersed; petiole ca. 1 cm; stipules ca. 6 mm. Inflorescence ca. 9 cm, terminal, racemose or with 1–3 short branches near the base; flowers solitary or in well-spaced, pedunculate clusters of 2–3; peduncles ca. 3 mm; fruiting pedicel ca. 10 mm, markedly incrassate upward; flowers not seen, only very small buds present. Torus 9–12 mm, subglobose or obovate; drupelets ca. 12 mm, ellipsoid.

*Paratype*. PANAMA. BOCAS DEL TORO: La Fortuna area to Chiriquí Grande and the oil pipeline, along dirt road 10 mi. from Continental Divide, just past second large bridge, 1 mi. N from highway, 130 m, *Hammel, McPherson & Sanders 14588* (MO).

*Distribution*. Both collections are from the Caribbean slope of Bocas del Toro, Panama.

With its narrowly cylindrical inflorescence and oblong leaves, *Ouratea stenobasis* resembles *O. rinconensis* of Costa Rica and *O. flexipedicellata* of Panama, which are also low-elevation species. However, *O. stenobasis* has an inflorescence ca. 9 cm long, whereas the other two species have inflorescences 20–24 cm long. *Ouratea stenobasis* has penniparallel secondary leaf venation, while *O. flexipedicellata* has irregularly spaced secondary venation. *Ouratea stenobasis* can be distinguished from all other species of *Ouratea* by the stalklike base of the leaf, which gives the appearance of a slender petiole above a pulvinus. The specific epithet is derived from this characteristic leaf base.

**7. *Ouratea sulcatinervia*** Whitefoord, sp. nov.

TYPE: Panama. Panamá: 10 km N of Magarita on road to Madroño then 3 km W on ridgetop road, forest remnants, 1,800 ft., 31 Jan. 1979, *Hammel 6020* (holotype, MO). Figures 8, 9.

Ab *O. tuerckheimii* J. D. Smith calyce tantum ex sepalis duobus constante, fructibus maioribus, differt.

Shrubs or trees 2–5 m high, with stout flexuous branchlets, glabrous. Leaves 23–37 × 5.5–10(–13) cm, narrowly or broadly oblanceolate, the base narrowly or widely subauriculate, the apex acuminate; stiffly coriaceous, usually slightly glossy on both surfaces, drying reddish or greenish brown, brighter beneath, the margin revolute, subentire or serrulate; venation conspicuous with ca. 20 pairs of major and numerous minor secondary veins usually deeply sulcate above, raised beneath, the tertiary venation very fine, scarcely impressed, immersed, or raised above and scarcely raised beneath; petiole 2–3(–5) mm, stout; stipules 7–8 mm, persistent. Inflores-

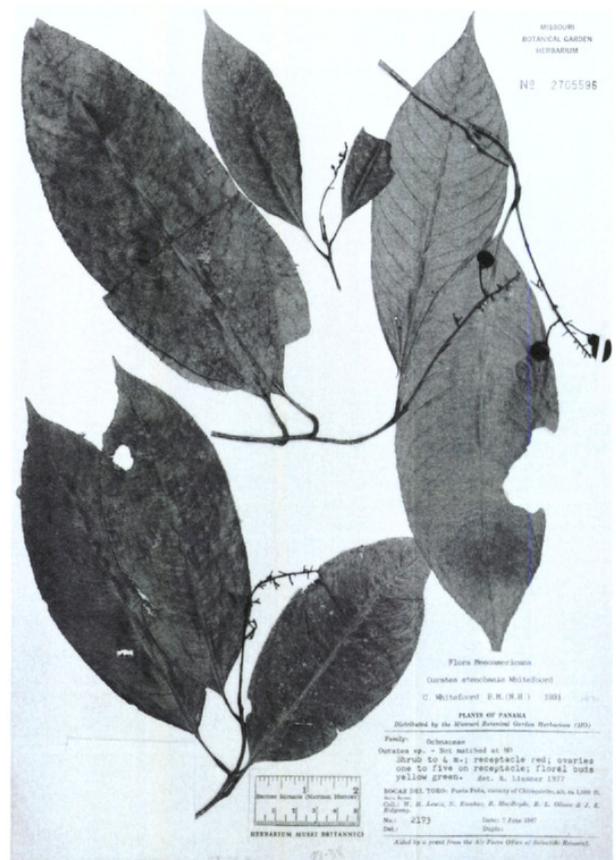


Figure 7. *Ouratea stenobasis* (Lewis, Escobar, MacBryde, Oliver & Ridgway 2173, MO).

cence 10–29 cm, terminal or terminating short leafy side-shoots, usually paniculate with 1–4 slender rhachises unbranched or with 1–4 spreading-ascending branches, or rarely racemose; paired stipulelike scales 5–7 mm occasionally persistent on the rhachis at and 1–3 cm above the base and at the lower branching points; flowers well-spaced, solitary or 2–3 in shortly stalked or sessile clusters; pedicel 7–12 mm, slender, much thickened in fruit; sepals 2, 8–11 mm long, boat-shaped, coriaceous, the margins not scarious; petals 5, 9–10 mm long, obovate; stamens 10, the anthers 7.5 mm; gynophore 1.0–2.0 mm; style 3–6 mm. Torus 10–15 mm, narrowly or broadly obovoid; drupelets 8–10 mm, ovoid.

*Paratypes*. PANAMA. COLON: Santa Rita ridge lumber road, *Correa & Dressler 918* (MO); Santa Rita Ridge road, 4 mi. from Transisthmian Hwy. to Agua Clara weather station, ca. 500 m, *Dressler, Berg & Gentry 8834* (MO); Santa Rita Ridge to 8 mi. E of Transisthmian Hwy., to 800 ft., *Dressler, Lallathin & Dwyer 9010* (MO); Santa Rita E ridge, *Dwyer & Correa 8398* (MO); Santa Rita Ridge, 2 mi. from Transisthmian Hwy., *Gentry 1420* (MO); Santa Rita ridge, ca. 12 km from Transisthmian Hwy., *Hammel 3648* (MO); Santa Rita Ridge road, ca. 8 mi. E of Transisthmian Hwy., along trail N of road, 350–440 m, *McPherson & Merello 8254* (MO); Santa Rita Ridge road, ca. 6 km from Boyd–Roosevelt Hwy.,



Figure 8. *Ouratea sulcatinervis*, in flower (Hammel 6020, MO).



Figure 9. *Ouratea sulcatinervis*, in fruit (Davidse & D'Arcy 10106, MO).

Mori & Kallunki 2149 (MO); Santa Rita ridge, 7 km by road from Transisthmian Hwy., 3 km SE of Puerto Pilon, 200–250 m, *Nee & Hale* 9671 (MO); Santa Rita Ridge road, 20 km from Transisthmian Hwy., Santa Rita hills, *Smith & Smith* 3431 (F); Santa Rita Ridge road, 20 km from Transisthmian Hwy., 100–1,200 ft., *Sytsma* 1104 (MO, MEXU); Santa Rita Ridge road, 18–20 km from Transisthmian Hwy., 1,000–1,200 ft., *Sytsma* 2056 (MO). SAN BLAS: El Llano–Cartí road, 20 km from Inter-American Hwy., 100–350 m, *de Nevers, Vespuccio & Herrera* 3965 (MO). PANAMA: 7 mi. N of Cerro Azul on road to Cerro Jefe, ca. 2,600 ft., *Blum, Godfrey & Tyson* 1800 (MO); 2.5 mi. N of Goofy Lake on road to Cerro Azul, *Croat* 11528 (F, MO); El Llano road, 3.4 mi. from the highway, ca. 1,000 ft., *Croat* 49100 (MO); Cerro Jefe, 700 m, *Davidse & D'Arcy* 10106 (MO); Cerro Azul, 2,000 ft., *Dwyer* 1371 (MO); 10 mi. from the Pan-American Hwy. on the El Llano–Cartí road, 350 m, *Knapp, Whitten & Huft* 4726 (MO); along El Llano Cartí–Tupile road, 12 mi. above Pan-American Hwy., 200–500 m, *Liesner* 1233 (MO).

**Distribution.** All collections are from Panama, from the Santa Rita ridge, the Goofy Lake to Cerro Azul and Cerro Jefe area, and along the El Llano–Cartí road, tropical wet forest to cloud forest, (30–)100–700 m.

Many specimens of *Ouratea sulcatinervis* have been identified as *O. tuerckheimii* J. D. Smith, a species with similar leaves from Mexico and Gua-

temala. However, the leaves of *O. sulcatinervis* are often shorter and stiffer, with the lateral veins more regularly spaced and more deeply sulcate (from which the specific epithet is derived). *Ouratea tuerckheimii* has two sepals, while *O. sulcatinervis* has five. *Ouratea sulcatinervis* has a torus 10–15 mm long, while that of *O. tuerckheimii* is only 5–10 mm.

**8. *Ouratea tristis* Whitefoord, sp. nov. TYPE:** Panama. Panamá: summit of Cerro Jefe and forests along road beyond summit, 26 Aug. 1967, *Hayden* 1010 (holotype, MO). Figures 10, 11.

*Ouratea podogyne* J. D. Smith forma et nervatura foliorum *O. podogyne* J. D. Smith similis sed foliis chartaceis non coriaceis; ab *O. podogyne* rhachidi graciliore, calyce ex sepalis tantum duobus constanti, differt.

Shrubs or trees 1–5 m high, the branchlets slender, glabrous. Leaves 20–38 × 3–6.5 cm, narrowly lanceolate or narrowly ovate-lanceolate, the base cuneate, the apex acute or acuminate; chartaceous, minutely papillose on both surfaces, drying dull greenish brown, the margin sometimes revolute, subentire or sometimes bluntly and widely toothed toward the apex; venation conspicuous, the major





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