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## *Rudgea monofructus* (Rubiaceae), an Unusual New Species from Costa Rica

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*Rudgea* Salisbury is a genus of about 150 species of shrubs and small trees found in wet forests of the Neotropics. The majority of species are known from South America. This genus is allied to *Psychotria*, from which it is separated primarily by its pectinate or fimbriate appendages on the stipules. These appendages appear to be a reliable character but are frequently caducous, making the identification of this genus difficult when young stipules are not well preserved.

***Rudgea monofructus*** Gómez-Laurito & Dwyer, sp. nov. TYPE: Costa Rica. Alajuela: Reserva Forestal de San Ramón, campamento Río San Lorencito, 10°13'N, 84°37'W, 900–1,100 m, 2 Sep. 1989, J. Gómez-Laurito & G. Vargas 11822 (holotype, CR; isotypes, F, USJ). Figure 1.

Frutex vel arbuscula ad 4 m altus omnino glaber ramosus. Folia opposita, lamina lanceolata usque elliptica vel oblanceolata, 7–18 cm longa, 2–9 cm lata, apice acuminata, base angustata usque cuneata, paribus nervorum secundariorum ca. 4–10 regulariter arcuatis, infra elevatis, ceteris conspicue reticulatis; petiolis 3–12 mm longis, ca. 2 mm crassis; stipulis succulentis cupuliformibus, deciduis, lingulatis vel ellipticis, 3–10 mm longis, ad apicem fimbriatis fimbriis 0.5 mm longis. Flores solitarii (–3), terminali, odore *Gardenia* praediti; pedunculis teretibus, 1.5–4 mm longis, ad apicem articulatis, ca. 1 mm crassis; pedicellis 0–28 mm longis, ca. 1 mm crassis, ad apicem articulatis; calyx cupuliformis, 3–13 mm longis, ca. 6 mm diametro, albus, 3–4-lobulatus, lobulis 3–5 mm longis, in fructus persistentibus; corolla alba, salverformis, tubo 5–9 mm longo, 5 mm diametra, lobulis 6, 8–11 mm longis, 2–3 mm crassis, trigonis, carnosus, in tubum gradatim decrescentibus, lobulo calcaris perfecte incurvato apice angusto; stamina 7 in tubo pro parte tertia adnata, filamentis planis, 1 mm longis; antherae anguste oblongae, ca. 3.5 mm longae, basifixae, apiculatae, apiculo 0.4 mm longo; stylus rectus, 11 mm longus, leviter exsertus. Fructus pallido-viridis, demum albus, 1.2–2 cm longus, 10–14 mm diametro.

Shrubs or small trees to 4 m tall, glabrous throughout. *Leaves* opposite, decussate; blades lanceolate to elliptic or oblanceolate, 7–18 cm long, 2–9 cm wide, acuminate at apex with the tip to 1

cm long, acute to cuneate at base, chartaceous, glabrous; secondary veins 4–10 pairs, arcuate, prominulous below, the lesser venation reticulate and rather pronounced below as well; petioles 3–12 mm long, ca. 2 mm thick; stipules persistent only on uppermost 1–3 nodes, succulent, lingulate to elliptic, cupuliform, 3–10 mm long, rounded to truncate, fimbriate at the very apex with 3–10 projections ca. 0.5 mm long, these deciduous. *Flowers* 1(–3), terminal, with odor of *Gardenia*; peduncles terete, ca. 1 mm thick, articulated at apex, 1.5–4 cm long; pedicels similar, 0–28 mm long; calyx limb cupuliform, 3–13 mm long, ca. 6 mm diam., white, irregularly 3–4-lobed, the lobes 3–5 mm long, subtruncate to rounded, persistent in fruit; corolla carnose, white, salverform, the tube 5–9 mm long, the lobes 6, narrowly triangular, trigonal, 8–11 mm long, 2–3 mm thick, at apex acute and appendaged, the appendages incurved, narrowly triangular, 3–4 mm long, acute; stamens 7, inserted in the lower  $\frac{1}{3}$  of the tube, filaments flattened, ca. 1 mm long, anthers narrowly oblong, ca. 3.5 mm long, basifixed, apiculate with the appendage ca. 0.4 mm long, triangular, acute. Style ca. 11 mm long, straight, filiform; stigma subcapitate, ca. 0.5 mm long. *Fruit* ovoid, smooth, succulent, pale green becoming white, 12–20 mm long, 10–14 mm diam.

Located in wet forests at 600–1,200 m in the southern Cordillera de Tilarán of Costa Rica northward to Volcán Miravalles. Collected in flower July to September and in November; in fruit February, June, August, and October to November.

This new species is unusual in *Rudgea* because of several characters: its 6-merous corollas with appendaged lobes longer than the tube, vs. 4–5-merous corollas with the tube longer than the unappendaged lobes in most other species; its usually solitary or rarely three flowers, in contrast to five or usually more flowers in pyramidal inflorescences in most other species; and its seven stamens, in contrast to four or five in most other species. This new species is most similar to the sympatric *R.*

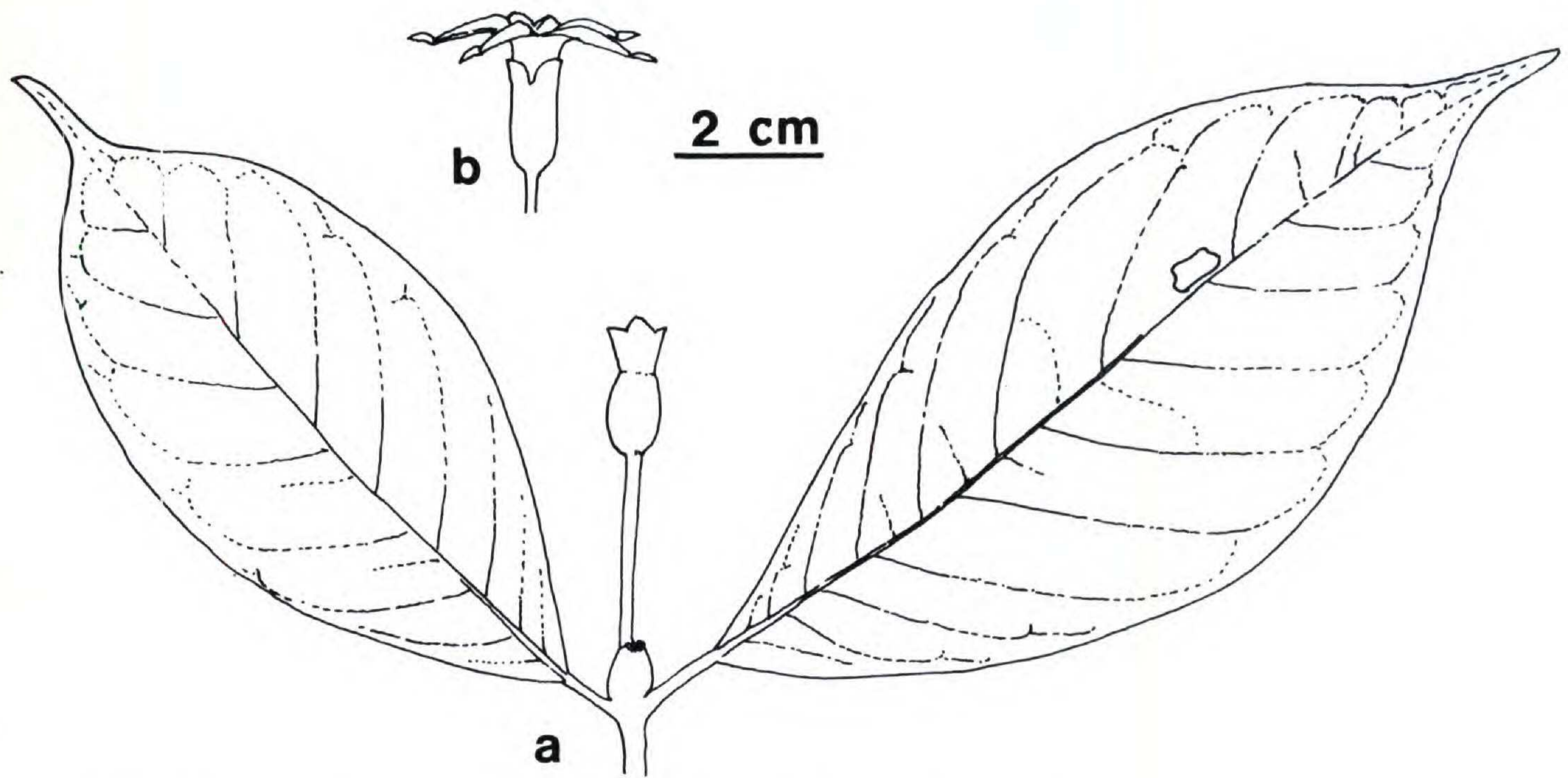


Figure 1. *Rudgea monofructus* (E. Bello 539, MO). —a. Habit with fruit. —b. Flower.

*skutchii* Standley, which is found at 50 to 1,200 m in wet forests from Colombia north to the Monteverde area in Costa Rica. *Rudgea skutchii* also has appendaged corolla lobes longer than the tubes, but it is easily separated by its 5-merous corollas with lobes 6–8 mm long, inflorescences with 5–15 flowers, and shortly truncate to rounded or cordate leaf blades borne on petioles 0–6 mm long.

*Paratypes.* COSTA RICA. ALAJUELA: Reserva Biológica de Monteverde, Río Peñas Blancas, Vertiente Atlántica, 10°19'N, 84°43'W, E. Bello 365 (CR, MO); Reserva Biológica de Monteverde, Río Peñas Blancas, Quebrada Azufre, 10°19'N, 84°42'W, E. Bello 539 (CR, MO, USJ); between San Lorenzo and Los Angeles de San Ramón, above Río San Lorenzo, 10°14'N, 84°32'W, W. Burger & T. Antonio 11193 (F); Reserva Forestal de San Ramón, campamento Río San Lorencito, 10°13'N, 84°37'W, I. Chacón et al. 2174 (CR), P. Döbbeler & J. Gómez-Laurito s.n. (M, USJ), J. Gómez-Laurito et al. 12000

(CR, F, USJ); faldas del Miravalles, Zapote, Upala, J. Gómez-Laurito 9314 (F); Reserva Forestal de San Ramón, ca. Colonia Palmareña, J. Gómez-Laurito 10571 (F); Reserva Forestal de San Ramón, campamento Río San Lorencito, 10°13'N, 84°37'W, J. Gómez-Laurito 11741 (F); Reserva Biológica de Monteverde, Laguna de Peñas Blancas, vertiente Atlántica, 10°18'N, 84°43'W, W. Haber & E. Bello 7415 (CR, MO); Reserva Biológica de Monteverde, Río Peñas Blancas, 10°18'N, 84°44'W, W. Haber & E. Bello 7937 (CR, MO); Río Peñas Blancas, San Carlos, W. Haber & E. Bello 2312 (CR, MO); La Fortuna de San Carlos, 3 km al sur del Cerro Chato, junto al Río Fortuna, 10°25'20"N, 84°41'40"W, Q. Jiménez & L. H. Elizondo 734 (CR, MO, USJ); near La Laguna, 6–8 km S of Villa Quesada, A. Molina et al. 17550 (F); San Ramón, Las Cataratas, L. J. Poveda 763 (CR, USJ).

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