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Psydrax merrillii (Rubiaceae), a new combination for a Polynesian tree species

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Abstract

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Canthium merrillii (Setch.) Christoph. is a tree restricted to the Polynesian archipelagos of Samoa, Tonga, and Wallis and Futuna. The paleotropical genus *Psydrax* Gaertn., which belongs to the tribe *Vanguerieae* of the family *Rubiaceae*, comprises unarmed shrubs bearing stamens with anthers reflexed on the filaments, whereas the species of the genus *Canthium* Lam. are characterized by being spinescent shrubs. *Canthium merrillii* (Setch.) Christoph. is therefore transferred to *Psydrax* based on the absence of spines. A description and an illustration of the species are provided.

Keywords

RUBIACEAE – *Psydrax* – Polynesia – New combination – Taxonomy

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Introduction

Canthium merrillii (Setch.) Christoph. (*Rubiaceae*, *Vanguerieae*), originally described as *Plectronia merrillii* Setch. (SETCHELL, 1924), is a tree up to 15 m high restricted to the Polynesian archipelagos of Samoa, Tonga, and Wallis and Futuna, where it thrives in dry littoral forests to cloud forests from sea level to 700 m of elevation.

Canthium Lam. is a genus characterized by its spinescent habit (LANTZ & BREMER, 2004), mainly occurring in continental and insular tropical Asia and East Tropical Africa. In contrast, the species belonging to *Psydrax* Gaertn. are unarmed and have stamens with anthers reflexed on the filaments. *Canthium merrillii* is a completely unarmed tree displaying stamens as mentioned for *Psydrax*. Moreover, the species shows further typical characters of the Pacific *Psydrax*: corymbiform inflorescence, style ended in a stylar head complex, and fruits with verrucose pyrenes compressed at the insertion of the hilum (MEYER, 2017).

WHISTLER (2004) already made the combination in the genus *Psydrax*, cited the basionym and its author but without reference to its place of valid publication, which renders it not validly published under ICN Art. 41.5 (TURLAND et al., 2018). The valid combination is made below by giving a full and direct reference to the place of valid publication of the basionym.

Materials and methods

This contribution is mainly based on the revision of digital images of specimens kept at UC, especially those belonging to Setchell's herbarium. Collections from NOU and P were also studied, as well as digital images of specimens from AK, BISH, K, and US.

New combination

Psydrax merrillii (Setch.) Whistler ex Mouly, **comb. nov.** (Fig. 1).

- ≡ *Plectronia merrillii* Setch. in Pap. Dept. Marine Biol. Carnegie Inst. Wash. 20: 49. 1924. ≡ *Canthium merrillii* (Setch.) Christoph. in Bull. Bernice P. Bishop Mus. 128: 201. 1935. **Holotypus:** AMERICAN SAMOA. **Tutuila Island:** Tutuila, fl., III.1922, *Setchell [leg. Babcock & Sütupe]* 423 (UC [UC220154] image!; iso-: UC [UC220155, UC469852] image!).
- *Psydrax merrillii* (Setch.) Whistler, Rainforest Trees Samoa: 143. 2004 [comb. inval.].

Tree, up to 15 m high, branches cylindrical to laterally compressed, sometimes subquadrangular, unarmed, glabrous; bark brown-reddish then grey. *Stipules* 4.5–5.5 × 3.5–4 mm,

triangular, connate at base, flat or slightly to deeply awned, persistent on young shoots. *Leaves* opposite, slightly coriaceous; lamina 8–16(–20) × 5–11(–12) cm, elliptic-ovate, base rounded to cuneate, apex obtuse, minutely mucronate; secondary nerves 5–7, slightly prominent underneath, tertiary nerves visible; domatia common, pocket-like, at the axil of secondary or tertiary nerves; petiole 0.9–1.3 cm long. *Inflorescences* 3–4 × 3–4 cm, axillary, paired at nodes, corymbiform, 15–30 flowers, axes thin and straight, topped by short navicular bracts, solitary or in pairs. *Flowers* hermaphroditic, fragrant; pedicel 2–8 mm long; hypanthium c. 2 mm in diam., turbinate, glabrous; calyx 5-lobed, glabrous outside, tube 0.4–0.8 mm long, lobes 0.5 mm long, triangular with obtuse apex; corolla cylindrical to campanulate, 5-lobed, pure white, turning yellow as it ages, tube 4–4.5 × 1.8–2.5 mm, mouth with a ring of moniliform trichomes, lobes 3.5–4 mm long, triangular-lanceolate, reflexed, thick, margin slightly involute dorsally, papillose internally; stamens inserted at the corolla-lobes sinuses, exerted, filament 1.5–2 mm long, anthers 2.5–3 mm long, oblong, attached medio-basally and dorsally, reflexed; style elongated, 8–9 mm long, stigmatic head 1.5–2 mm long, cylindrical-ovoid, papillose; ovary bilocular, a single ovule per locule. *Fruits* 8–11 mm in diam., 3.5–4 mm thick, discoid, dark green to black when mature and fleshy in vivo, verrucose in sicco; pyrenes 2, c. 8–9.5 mm long, subcylindrical, thick, verrucose, crescent moon shaped. *Seeds* c. 7 mm long.

Distribution and ecology. – The plant is restricted to Upolu and Savai'i in Samoa, Tutuila in American Samoa, Tafahi in Tonga, and Futuna in Wallis and Futuna. It thrives from the dry littoral forests near the coast to the cloud forests at elevations of 5 to 700 m.

Additional specimens examined. – AMERICAN SAMOA. **Tutuila Island:** Pago Pago, 426 m, 18.III.1930, *Diefenderfer 13* (BISH); s.l., VI–VII.1920, *Setchell [leg. Sütupe]* 518 (UC [UC215601]); West of Aoloaufou, 300 m, 1.X.1976, *Whistler 3672* (US). SAMOA. **Savai'i Island:** Gataivai (inland 1 mile), 50 m, 20.VIII.1968, *Bristol 2269* (BISH); Taga, 5 m, 6.X.1931, *Christophersen 2825* (BISH, P, US), 2835 (BISH); Salailua-Lataitai, 10 m, 19.X.1931, *Christophersen 2860* (BISH); *ibid.*, 17.IX.1931, *Christophersen & Hume 2619* (BISH, P, US); Asau, just east of the Potlatch Lumber Mill, 20 m, 11.III.1974, *Whistler 1787* (BISH). **Upolu Island:** Ridge above Malololelei, 700 m, 14.VIII.1929, *Christophersen 242* (BISH); Vaea, 350 m, 28.VIII.1929, *Christophersen 459* (BISH, P, US); near Afulilo waterfall in the Le Mafa area, 350 m, 11.II.1974, *Whistler 1571* (US); Ridge South of Mount Fao, 400 m, 2.I.1976, *Whistler 3241* (US). TONGA. **Tafahi Island:** s.l., 530–540 m, 25.VII.1978, *Buelow 1176* (AK); summit of the island, 19.XI.1987, *Whistler 6255* (US); between Vai Kona and Vai Langita, 26.XI.1987, *Whistler 6366* (US). WALLIS AND FUTUNA. **Futuna Island:** Nuku, Singave, 35 m, 1.VII.1974, *Kirch s.n.* (BISH); Nuku, Singave, along ridge leading to Osiiti, 30–40 m, 19.VII.1974, *Kirch 160* (BISH); Mont Puke, 14.XI.2008, *Munzinger et al. 5302* (K, NOU, P).

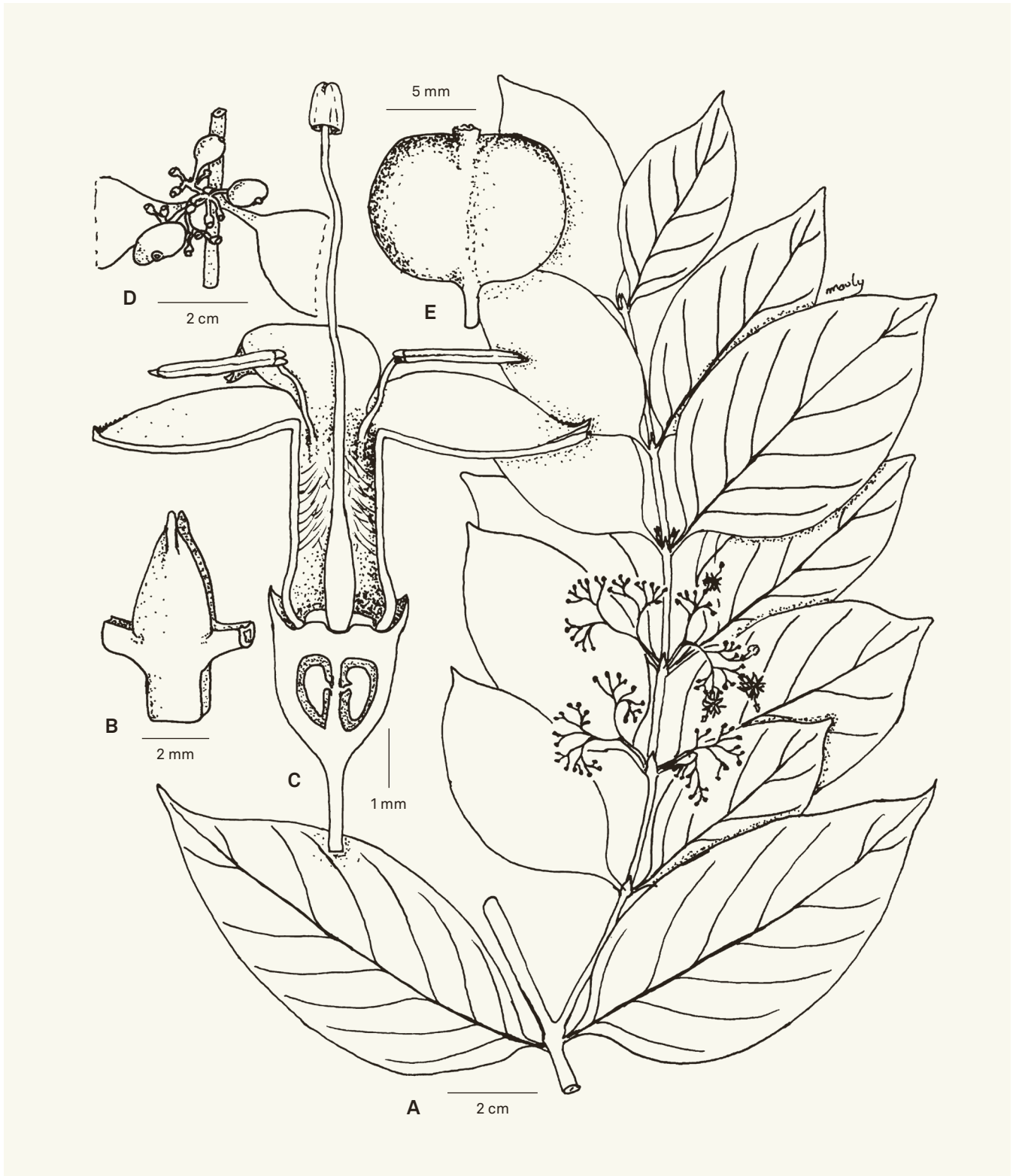


Fig. 1. – *Psydrax merrillii* (Setch.) Whistler ex Mouly. **A.** Flowering branch; **B.** Stipules; **C.** Flower in longitudinal section; **D.** Detail of fruiting branch; **E.** Fruit in lateral view.
 [Setchell 423, UC] [Drawing: A. Mouly]

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