A revision of Cuban Bunchosia (Malpighiaceae), with description of a new subspecies from Hispaniola

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**Abstract**


The Cuban representatives of *Bunchosia* are revised, based on the study of herbarium specimens and observations in the field. Instead of the eight species reported for Cuba in the literature, only four native species of *Bunchosia* grow on Cuba. Two are endemic, one consists of an endemic subspecies and a second one, newly described, replacing it on Hispaniola. For the Cuban taxa, descriptions, synonymies with type citations and a key for identification are provided.

Additional key words: taxonomy, Greater Antilles, lectotypification

**Introduction**

*Bunchosia* Rich. ex Kunth comprises 69 species distributed from Mexico to South America (W. R. Anderson, pers. comm.). The species of this genus are characterised by the habit of shrubs or small trees, the presence of glands (two or several) on the lower surface of the leaf, flowers in lateral pseudoracemes, unguiculate and yellow petals, 10 stamens that are equal or nearly so, an ovary with 2–3 carpels and locules, 2–3 styles (but ± completely connate in the Cuban species) and a fleshy fruit (a berry) that is yellow, orange or red when ripe, containing 2 or 3 seeds (sometimes only one due to abortion), each seed enclosed in a cartilaginous endocarp with reticulate venation.

Alain (1953) recognised six *Bunchosia* species in the Cuban archipelago. Dobson (1983) added *B. articulata*, newly described. Anderson (1988) mentions one more species for Cuba, without providing details: *B. poly­stachia*. The identification of several *Bunchosia* specimens kept in Cuban herbaria being uncertain, a revision was undertaken in order to clarify their taxonomy.

**Materials and methods**

About 200 Cuban specimens of *Bunchosia* were revised, held in herbaria of Cuba, the USA and Europe (A, B, GH, HAC, HAJB, JE, K, LE, NY and S, abbreviations following Holmgren & al. 1990) and including historical and type specimens, or their images. These studies were complemented by the observation of live plants in the field. For *B. linearifolia*, specimens from Hispaniola (JBSD and NY) were examined in addition.

**Results**

The number of *Bunchosia* species present on Cuba is reduced from eight to four. One of the recorded species
was relegated to synonymy, three proved to have been recorded in error.

As already noted by Dobson (1983), the name *Bunchosia emarginata* has been generally misapplied to the species he newly described as *B. articulata*. Whereas Dobson held that Regel’s real *B. emarginata*, described from a cultivated plant of Cuban origin, was only known from the type, I found that it does not differ significantly from *B. leonis*, published much later, which therefore becomes a synonym. The only apparent discrepancy are the larger leaves of Regel’s cultivated material, which are probably due to the abnormal greenhouse environment in which the plant was raised.

*Bunchosia media* (Dryand.) DC. is a doubtful species, described from cultivated material of unstated West Indian origin (perhaps from Barbados, as the English protologue designation suggests) that does not appear to have been preserved. Anderson (1988) treated *B. media* as a likely synonym of *B. polystachia*, a bicarpellate species that does not extend to Cuba (see below). However, Niedenzu (1898, 1914, 1928) misapplied the name *B. media* to tricarpellate species, for Cuba notably *B. articulata*. Cuban reports of *B. media* (e.g., by Alain 1953) are wrong and mostly refer to *B. articulata*.

*Bunchosia nitida* (Jacq.) DC., was reported by Niedenzu (1928) from Lomas de Camoa (Habana province) on the basis of a specimen (*Ekman 13447*) that I failed to trace. Another specimen from Sierra de Camoa (*León 7319*) is, however, *B. articulata* and Alain’s (1953) record of *B. nitida* from the Pinar del Río province probably concerns the same species. As confirmed by Anderson (pers. comm.), true *B. nitida* does not grow on Cuba.

Finally, Anderson (1988) cited *Bunchosia polystachia* (Andrews) DC. as occurring in Cuba. I have found no Cuban specimens of genuine *B. polystachia* among the material studied, and am therefore excluding that species as well from the Cuban flora.

Four native species of *Bunchosia* thus remain, growing in the Cuban archipelago. They are keyed out and described below. In addition, a cultivated species has been seen growing in gardens of the provinces Pinar del Río, Matanzas, Camagüey and Guantánamo: *B. glandulifera* (Jacq.) Kunth, which is, however, omitted from the present treatment.

### Key to the native Cuban *Bunchosia* species

1. Inflorescences 2–3-flowered . . . subsp. *linearifolia*  
   1.1. Inflorescences 3–7-flowered . . . subsp. *barahonica*


Key to the subspecies

1. Inflorescences 2–3-flowered . . . subsp. *linearifolia*  
   1.1. Inflorescences 3–7-flowered . . . subsp. *barahonica*

#### 1.1. *Bunchosia linearifolia* P. Wilson subsp. *linearifolia* Shrub to c. 3 m tall. Branches greyish, with abundant lenticels, hairy when young. Leaves with petiole 1–3 mm long; lamina mostly linear, sometimes lanceolate, narrowly elliptic or narrowly obovate, (1.5)2.5–8 cm long, 0.2–0.5–0.8 cm wide, dull, pale or greenish brown when dry, pale green abaxially when fresh, with scattered hairs on both faces and small punctiform dots axially, apex acute or rounded or emarginate, base narrowed or ± decurrent on the petiole, margin entire, revolute and sometimes undulate; midvein prominent abaxially, secondary veins inconspicuous, in 7–9 pairs; abaxial glands 2–4, mostly inconspicuous, located at the base of the lamina and close to the margin. Inflorescences up to 3 cm long, 2(–3)-flowered; pedicels 7–8 mm long, bracteoles < 1 mm long, peduncle 1–2 mm long, bract c. 0.5 mm long. *Flores* 12–14 mm in diameter; calyx lobes c. 2 mm long; petals with margin erose, especially near the base of the limb, the 4 lateral ones with a 1–1.5 mm long claw and a suborbicular limb 3–4 mm in diameter, the posterior one with a 2.5–3 mm long claw and a limb 3 × 4 mm; stamens with 1.5–2 mm long filaments and <1 mm long anthers; ovary bicarpellate, c. 2 mm long; stigma 2-lobed. *Fruit* one per infructescence, ± heart-shaped, 12 mm long and to 15 mm wide; seeds 2 per fruit (one of them sometimes aborted), c. 10 mm long and 8 mm wide. — Fig. 1.

**Distribution.** — Endemic to C and E Cuba, growing in xeromorphic scrub from sea level to 200 m of altitude, flowering in June and fruiting June to November.

17.12.1919, Ekman 10174 (A, NY); at Naval Station, in serpentine hills, 26.11.1922, Ekman 15781 (NY, S); United States Naval Station, 3.1909, Britton 2055 (NY); Cajobabo, 7.–8.1924, León 12065 (GH); Cabanas [or cubanas?] bay, 17.3.1912, Britton & Cowell 12715 (HAC, NY); southern Baracoa region, Jauco and Cajobabo, 7.–8.1924, León 12062 (NY [2]); Finca la Zarza, 12.1929, Hioram (GH, HAC); Imías, 8.2.1952, Bisse & Köhler HFC­8828 (HAJB, Je); cerca del paso de la Yegua, 5.1968, Bisse & Köhler HFC­3432 (HAC, Je); en la loma del Cuero, cerca del río Tacre, 8.2.1976, Areces & al. HFC-29801 (B, HAJB, JE); la Chivera, loma frente al campamento, 8.2.1979, Berazaín & al. HFC-39047 (B, HAJB, JE); Yacambo, loma de Yacambo, 9.2.1976, Areces & al. HFC-29875 (B, HAJB, JE); Sierra de Imías, entre Las Marías y El Posango, 200–700 m, 10.4.1984, Arias & al. HFC-52713 (B, JE); Maisí, Jauco, terrazas costeras al este de la desembocadura del río Caleta, 200 m, 12.2.1979, Berazaín & al. HFC-39258 (B, HAJB, JE); Maisí, terraza costera inferior al río Ovando y Punta Caleta, 50–100 m, 7.6.1982 Bássler & al. HFC-47895 (B, HAJB, JE); Mesa de Ovando, Maisí, 1.1940, León & Matos (GH, HAC); Meseta de Maisí, 6.2.1952, Acuña & Díaz-Barreto (HAC); Alrededores de Tortuguilla, 12.4.1972, Bisse & Berazaín HFC-21843 (HAB, JE). — Santiago de Cuba or Guantánamo: Coast between Santiago de Cuba and Guantánamo, 11.1920, Bucher 195 (HAC, erroneously labelled “zona de Moa-Baracoa”; NY Roig 5355).

1.2. *Bunchosia linearifolia* subsp. *barahonica* P. A. González, *subsp. nov.* — Holotype: Hispaniola, Dominican Republic, “Pedernales, Península de Barahona, Isla Beata, 2.5 km al este del Campamento de la Marina de Guerra, 17°36’30”N, 71°31’W”, 25–30 m, 30.8.1985, García & Pimentel 508 (NY 990772); isotype: JBDS [photo!] — Fig. 2.

A subspecie typica, insulae Cubae incola, differt inflorescentiis 3–7-floris, c. 3.5 cm longis.

**Note.** — The plants of this subspecies are very similar to the typical subspecies, but constantly have 3–7-flowered inflorescences, c. 3.5 cm long, infructescence with more than one berry and are only found on Hispaniola in the Dominican Republic and Haití.

**Etymology.** — Named after the Barahona peninsula in the Dominican Republic, where it appears to abound and where three of the collections seen, including the type, were collected.

**Distribution.** — Endemic to Hispaniola (Dominican Republic and Haití), growing in xeromorphic coastal vegetation from sea level to c. 150 m of altitude; flowering May to September and January, fruiting August to September.

**Specimens seen.** — HISPANIOLA: DOMINICAN REPUBLIC: Sobre rocas calcáreas, maniguas entre Oviedo y Pedernales, 100 m, 23.5.1976, Liogier & Liogier 25247 (JBDS [photo!]); Pedernales, península de Barahona, Isla Beata, 2.5 km al este del Campamento de la Marina de Guerra, 17°36’30”N, 71°31’W, 25–30 m, 30.8.1985, García & Pimentel 508 (JBDS [photo!], NY); Parque Nacional Jaru­gua, península de Barahona, a 30 km aproximadamente al Este de Trudillé, frente a la isla Beata, 17°36’N, 71°25’W, 0–150 m, 25.9.1997, González & al. 1194 (JBDS [photo!]). — HAITI: En el présqu’ile du St Nicolas, 19°50’N, 73°22’23”E, nivel del mar hasta 87 m, 20.1.1984, Zanoni & al. 28366 (JBDS [photo!]).
Fig. 2. Isotype (branch with fruits) of *Bunchosia linearifolia* subsp. *barahonica* (García & Pimentel 508, JBSD).

Shrub or small tree 2–6 m high. Branches with scattered hairs when young, glabrescent with age, the oldest ones totally hairless and lenticulate. Leaves with petiole 3–9 mm long, glabrous; stipules to c. 1 mm long, inconspicuous; lamina elliptic to obovate, sometimes lanceolate, (2–)4–12 cm long, 1.2–5.5 cm wide, chartaceous or subcoriaceous, apex obtuse to short-acuminate, base mostly acute or attenuate, lower surface glabrescent and with (2 or very rare) glands close to or on the midvein at the base of the lamina, margin entire, ± undulate; venation typically reticulate, secondary veins in 3–7 pairs. **Inflorescences** up to c. 9.5 cm long, with scattered hairs and 4–8(–13) flowers; pedicels 4–11 mm long, bracteoles < 1 mm long, peduncles 1–1.5 mm long, bract c. 1–2 mm long. **Flowers** 13–22 mm in diameter; calyx lobes 2.5–4 mm long; petals with erose margin, the 4 lateral ones with a 2–4 mm long claw and a limb 5–8 mm in diameter, the posterior petal with a 3–4 mm long claw and a limb 4–6 mm in diameter; stamens with 3–4.5 mm long filaments and 1–1.5 mm long anthers; ovary 3-carpellate, 1.5–2 mm long; stigma 3-lobed. **Fruit** 5–10 mm in diameter; seeds 2 or 3 per fruit, c. 7 mm long and c. 4 mm wide.

**Distribution.** — Endemic to W and C Cuba, growing in woods and scrubs, on soils derived from limestone rocks, from sea level to 1200 m of altitude; flowering April to July and fruiting May to September and in January.

**Specimens seen.** — W Cuba: PINAR DEL RÍO: Sierras de Galalón, 7.1965, Yero 406 (HAC); Sumidero, Mogotes de la Punta, 19.12.1978, Bisse & al. HFC-38820 (B, HAJB, JE); mogotes en el valle de Viñales, 16.11.1968, Bisse & Lippold HFC-10698 (HAJB, JE). — HABANA: Escaleras de Jaruco, 20.7.1977, Bisse & al. HFC-35061 (B, JE); bosques en las márgenes del río Ariguanaibo, cerca del parque Río Ariguanaibo, 17.6.1987, Arias, Berazaín & Gutiérrez HFC-62132 (HAJB); Loma de Esperón, on the NW outskirts of Caimito, 8.7.1951, Webster 3691 (GH); Sierra de Esperón, 24.3.1956, Alain 5310 (HAC); Finca San José, Cacahuán, 29.5.1954, Alain 4014 (HAC); Loma de Soromrosto, limestone, Jamaica, 13.7.1923, León 11458 (GH, HAC, NY); Sierra de Camao, 12.7.1917, León & al. 7319 (HAC, NY). — CIUDAD DE LA HABANA: In hillside at Río Cojimar, towards the sea, 14.10.1921, Ekman 13315 (A); Marianao, maniguas, 28.6.1908, León 527 (HAC, NY); near Playa Marianao, small tree, limestone hill, León & Edmond 9025 (HAC); Santiago de Las Vegas, 6.1931, León 14902 (GH, HAC); in silvula int. Vedado et Marianao, 5.2.1914, Ekman 831 (NY). — MATANZAS: Canasí, loma de Palenque, 250–300 m, rocas calcáreas, 16.7.1970, Lippold HFC-17471 (HAJB, JE); thickets east to Matanzas, 9.1903, Britton & Wilson 410 (NY [2]); — CUBA: CIENFUEGOS: Buenos Aires, Trinidad hills, 2500–3500 ft., 7.1930, Jack 8079 (A, NY); lomas de Buenos Aires, este de Cienfuegos, Las Villas, 12.7.1929, León 14020 (HAC); Guabiano, Soledad, Las Villas, 17.3.1928, Jack 5885 (HAC); Cieneguita, 8.1.1895, Combs 362 (GH, NY, K). — SANCTI SPIRITUS: Banao, falda Sur de las lomas de Banao, 300–500 m, 20.11.1975, Álvarez & al. HFC-28765 (B, HAC, HAJB, JE). — FIGO DE ÁVILA: Municipio Florencia, Sierra de Jatibonico, Mogotes cerca de Boquerón, 30.4.1987, Arias & al. HFC-62045 (HAJB, JE). — CULTIVATED: Cultivada en la Estación, 4.1954, Acuña 19234 (HAC); Estación agronómica, Coloma 22820 (HAC); Arboretum, estación experimental agronómica, Fortiún (NY). — **Without locality:** Wright 2149 (K, NY).


Shrub 0.5–3 m high with greyish branches and lenticulate. Leaves with petiole 1–2 mm long, lamina mostly obovate, 2.45–(10) cm long, 0.7–1.7–3.5 cm wide, pale brown when dry, shiny above, with 2–4 glands at the base of the lamina and close to the margin, margin revolute, apex emarginate or rounded, base acute or cuneate; venation reticulate, especially above, secondary veins in 4–7 pairs. **Inflorescences** 1–1.7 cm long, with 3–6 flowers; pedicels 6–10 mm long, bracteoles not seen, peduncle inconspicuous (c. 1 mm long), bract c. 1 mm long. **Flowers** 1.5 cm in diameter; calyx lobes not seen; petals yellow, the 4 lateral ones with a c. 3 mm long claw and a limb c. 6 mm in diameter, the posterior one with a 4–5 mm long claw and a limb c. 4 mm in diameter; stamens not seen; ovary 2-carpellate, stigma 2-lobed. **Fruit** 0.8–1.7 cm long, 0.6–2 cm wide, sometimes with a persistent style; seeds 2 or fruit, c. 15 mm long, 8 mm wide.

**Distribution.** — Endemic to W Cuba, growing in xeromorphic scrub near sea level; flowering March to April and October, fruiting April to October. A rare species, not collected in the wild since 1930 although persisting in cultivation until at least 1949. If it still exists, it is certainly endangered and in need of protection.
Note. — The description of *Bunchosia emarginata* is still incomplete because flowering specimens were seen only in pictures and neither living nor flowering plants have been recently collected in Cuba.


**Shrub** 1.5–2 m high. *Leaves* with petiole 1–4 mm long, lamina lanceolate, elliptic, narrowly elliptic or obovate, (2.5–)5–10 cm long, 1–4.5 cm wide, apex acute or acuminate, base acute or cuneate and slightly decurrent, margin entire and sometimes also slightly revolute; pale green in living plants, brownish green when dry, paler beneath, with glands located in the basal half between the margin and the midvein, frequently closer to the margin or closer to the midvein, venation reticulate, secondary veins commonly in 5–7 pairs. **Inflorescence** 2–7 cm long, with up to c. 15 flowers; pedicels 3–9 mm long, pubescent, bracteoles < 1 mm long, peduncle up to 1.5 mm long (sometimes almost absent), bract at its base c. 1 mm long, acute. **Flowers** 10–13 mm in diameter; calyx lobes 2–3 mm long; petals yellow, the 4 lateral ones with a c. 2 mm long claw and a limb 4 mm long and wide, the posterior one with a claw 2.5–3 mm long and thicker than in the lateral petals, and a limb 4 mm long and wide; stamens with filaments 2–3 mm long and anthers c. 1 mm long; ovary 3-carpellate, 1–2 mm long, stigma 3-lobed. **Fruit** 4–10 mm long, orange coloured in living plants when ripe; seeds 3 per fruit (commonly fewer due to abortion), c. 5 mm long and c. 3 mm wide.

**Distribution.** — Yucatán, Jamaica and Cuba, growing in xeromorphic coastal scrub, forests, cliff habitats and secondary vegetation, mostly on soils derived from limestone rocks, from sea level to c. 600 m of altitude; flowering March to November and fruiting January to December.

Note. — *Bunchosia swartziana* is very variable in leaf size.


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