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ROSALINA BERAZAÍN ITURRALDE

A new species of *Purdiaea* (*Clethraceae*) from Cuba

Abstract

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Purdiaea bissei from Sierra de Moa in eastern Cuba is described as a species new to science, raising the number of species of this genus present in Cuba to twelve, all of which are endemic.

The genus *Purdiaea* Planch., which comprises some of the most attractive plants of the neotropical flora, has but recently changed its family affiliation. As Anderberg & Zhang (2002) have shown, its closest phylogenetic affinity is with *Clethra* (*Clethraceae*) rather than with *Cyrilla* of the *Cyrtillaceae*, the family in which it was formerly placed.

Purdiaea, in Cuba, is a genus of shrubs and small trees with hairy or glabrous young stems – when hairy, the trichomes may be long, silky, appressed, or short, rigid and erect. Cataphylls are ± conspicuous. The leaves are simple, sessile, alternate, papery or leathery, glabrous or rarely hairy at the base, with a flat or revolute, entire margin; the venation is pinnate or with basal and lateral veins running parallel to the leaf margin, arising from the leaf base or from the main central vein near the middle of the leaf, with or without reticulate venation between the main veins, reddish when young. The inflorescence is a terminal, bracteate raceme without a transition zone between vegetative and reproductive shoots; the pedicels are without bracteoles. The flowers are pentamerous, fragrant; the sepals are unequal in size, quincuncially arranged, the first and outermost larger than or similar to the second, the third asymmetrical, the fourth and fifth similar, foliaceous or scarious at maturity, increasing in size during the maturation of the fruit; the petals are basally connate, entire or fimbriate, glabrous or hairy, with numerous small, longitudinal, repeatedly branched veins, pale pink to violet; the ten stamens are attached pairwise to the base of the petals, the anthers are inverted at anthesis, oblong with a caudate base, opening with pores; the ovary is superior, with a single, pendulous-orthotropous ovule in each locule; the style is cylindrical with entire, pointed stigma. The fruit is a dry, indehiscent, 3-5-ribbed nut, with or without hairs, frequently enclosed in the persistent calyx; the seeds lack a distinct testa and are fused to the pericarp. All species are wind-dispersed, the dry sepals that enclose the fruit acting like wings.



Fig. 1. Isotype specimen of *Purdiaea bissei*, HFC 42162 (B).

The genus is represented by one species in Central America (Belize, Guatemala, Panamá), twelve species in Cuba (western and eastern) and two species in South America (Columbia, Venezuela, Ecuador, Perú), growing mostly in mountains (Thomas 1960, 1961).

The study of herbarium material and of plants in the field, in Cuba, revealed a great morphological diversity. The forthcoming treatment of the genus for the “Flora de la República de Cuba” will recognize twelve species, all of them endemic to the island (Marie-Victorin 1948, Alain 1953): *Purdiaea microphylla* Britton & P. Wilson, *P. ekmanii* Vict., *P. velutina* Britton & P. Wilson, *P. shaferi* Britton & P. Wilson, *P. moaensis* Vict., *P. cubensis* (A. Rich.) Urb., *P. parvifolia* (Vict.) J. L. Thomas, *P. maestrensis* Borhidi & Catasús, *P. nipensis* Vict., *P. stenopetala* Griseb., *P. ophiticola* Vict. and a new, additional one, *P. bissei* Berazaín, described here.

***Purdiaea bissei* Berazaín, sp. nova**

Holotype: [Cuba, prov. Holguín] “Moa, alrededor del aserrío La Melba”, 20.4.1980, *Álvarez & al. HFC 42162* (HAJB!, isotypes: B!, HAJB!, JE!) – Fig. 1-2.

Species haec insignis ab omnibus aliis ejusdem generis foliis basi utrinque pilosis statim dignoscitur.

Erect shrub, to 2 m tall. *Young stems* densely hairy, with short, rigid, erect trichomes. *Cataphylls* leathery, deciduous, elliptic-obovate, 17 × 10 mm, with an apiculate tip and cuneate base, slightly hairy at the base on both surfaces. *Leaves* elliptic, rarely obovate, 3.5-5(-7) × 2-2.5(-3) cm, leathery, with an obtuse to rounded mucronulate tip and the base cuneate, rounded, margin plane; lateral veins arising of the leaf base, running parallel to the leaf margin, all veins slightly visible on both surfaces, without reticulate venation between the main veins, hairy at the base on both surfaces. *Racemes* terminal, about 9 cm long, with a densely hairy, 3 mm thick rachis; basal bracts ovate-orbicular, 7 × 3 mm, very acute, the apical bracts broadly ovate, 2 × 2 mm, rounded, all hairy on both surfaces and ciliate; pedicels very short, densely hairy. *Flowers* of 10 mm in diameter at anthesis. *Sepals* hairy on both surfaces, obtuse, ciliate, the two exterior ones similar in size and shape, ovate, 6-7 × 4 mm, the third slightly ovate and asymmetrical, 5 × 2 mm, the two inner ones ovate-oblong, 5 × 2 mm, scarious when mature. *Petals* oblong, 4 × 2 mm, acute to acuminate, densely hairy outside, ciliate, bright violet. *Stamens* 3 mm long; filament 2 mm long; anthers caudate, 1.5 mm long. *Ovary* cylindrical, ribbed, 2 mm long, 1 mm diameter; densely hairy; style 2 mm long, hairy at the base. *Fruit* globose, ribbed, 2 mm in diameter, hairy, the persisting style 5 mm long.

Eponymy. – I take pleasure to dedicate this remarkable species to Dr Johannes Bisse, of the Herbarium Haussknecht, Friedrich Schiller University, Jena, and the Jardín Botánico Nacional, Havana University, my professor and friend, who collected extensively in the Sierra de Moa, especially in La Melba, and showed us the wonderful flora and vegetation of that area.

Distribution. – Endemic to the Sierra de Moa (La Melba, Río Limones, Mina Merceditas), eastern Cuba, where it is locally abundant in montane rainforest on lateritic soil, along streams and rivers, at an altitude of 400-600 m, flowering and fruiting in April. Other *Purdiaea* species growing in its company are *P. moaensis* and *P. ophiticola* in La Melba and Río Limones, *P. stenopetala* in Río Limones and *P. parvifolia* in La Melba.

Additional specimens seen. – CUBA, PROV. HOLGUÍN: Moa, charrascos en el camino a la Melba, cerca del km 18, 1968, *Bisse & Köhler HFC 6417* (HAJB, JE); Moa, La Melba, charrascal cerca del aserrío, 400-500 m, 3.1968, *Bisse & Köhler HFC 6684* (HAJB, JE), *HFC 7073* (JE), *HFC 7074* (HAJB); *ibid.*, 6.4.1970, *Lippold HFC 16455* (HAJB, JE); *ibid.*, 20.1.1988, *Berazaín & al. HFC 63285* (HAJB); Moa, en las orillas del río Jiguani, cerca del segundo aserrío de La Melba, 4.1968, *Bisse & Köhler HFC 6784* (JE); Moa, 1 km antes del aserradero del km 26, 28.3.1972, *del Risco & al. 27441* (HAC); Moa, alrededor del aserrío La Melba, suelo laterita, pluviosilva de montaña, 450-550 m, 30.4.1980, *Bisse & al. HFC 42386* (B, HAJB, JE); Moa, alrededor del campamento de Arroyo Limones, suelo laterita, 18.4.1985, *Álvarez & al. HFC 56136* (HAJB); Moa, km 26 del camino a la Melba, 19.4.1985, *Álvarez & al. HFC 56194* (B, HAJB, JE); Moa, alrededores de la Mina Merceditas, cabezadas del río Jiguani, 19.4.1985, *Álvarez & al. HFC 56225* (HAJB); Moa,

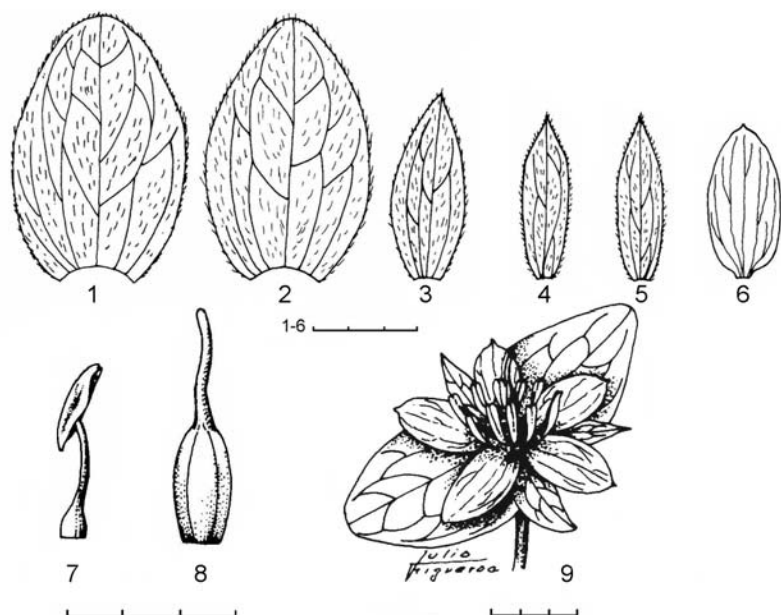


Fig. 2. Details of *Purdiaea bissei* – 1: first and outermost sepal; 2: second sepal; 3: third sepal; 4: fourth sepal; 5: fifth sepal; 6: petal; 7: stamen; 8: ovary; 9: whole flower. – Scale bars = 3 mm; drawn from the holotype

en el km 18 de la carretera a la Melba, 2.4.1990, *Oviedo & al.* HFC 69024 (HAC, HAJB); Moa, en el km 26 de la carretera a la Melba, 2.4.1990, *Oviedo & al.* HFC 69063 (HAC, HAJB).

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