# Calycogonium bissei, a new melastome (Melastomataceae, Miconieae) from Cuba

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Source: Willdenowia, 40(2) : 281-284

Published By: Botanic Garden and Botanical Museum Berlin (BGBM)

URL: https://doi.org/10.3372/wi.40.40209

Novitiae florae cubensis No. 34

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# *Calycogonium bissei,* a new melastome *(Melastomataceae, Miconieae)* from Cuba

**Abstract**

Bécquer Granados E. R.: *Calycogonium bissei,* a new melastome *(Melastomataceae, Miconieae)* from Cuba [Novitiae florae cubensis 34]. – Willdenowia 40: 281–284. – Online ISSN 1868-6397; © BGBM Berlin-Dahlem. doi:10.3372/wi.40.40209 (available via http://dx.doi.org/)

*Calycogonium bissei* from eastern Cuba is described as a species new to science and illustrated. *C. bissei* is closely related to *C. revolutum,* from which it can be distinguished by its elliptic to lanceolate leaves with two pairs of secondary veins, inflorescences of 3-flowered dichasia or 4–5-flowered fasciculate cymes and non-unguiculate petals.

Additional key words: *Calycogonium revolutum, Miconia, Pachyanthus,* taxonomy, Greater Antilles

## Introduction

Ongoing phylogenetic studies in several genera and species groups of *Miconieae (Melastomataceae)* have demonstrated that most genera in this tribe are not monophyletic. However, there are several well supported clades that can also be diagnosed by unique morphological characters (Bécquer-Granados & al. 2008; Michelangeli & al. 2004, 2008).

During a morphological study of species groups belonging to those clades and currently assigned to the genera *Calycogonium* DC., *Miconia* Ruiz & Pavón and *Pachyanthus* A. Rich., I came across an enigmatic species collected in La Melba (municipality of Moa, Province of Holguín, eastern Cuba) that had been identified as *P. oleifolius* Griseb., an eastern Cuban endemic only known from the type gathering made by Charles Wright in 1861. Comparison with Wright's type material showed that the specimens from La Melba are not *P. oleifolius* but represent a still undescribed species, morphologically similar and likely closely related to *C. revolutum* Alain.

*Calycogonium revolutum* forms a small clade with *Pachyanthus reticulatus* Britton & P. Wilson and both are related to other *Calycogonium* species, viz. *C. plicatum* Griseb., *C. floribundum* Borhidi and *C. grisebachii* Triana (Bécquer-Granados & al. 2008; Michelangeli & al. 2008). These species share the synapomorphy of abaxially densely stellate-pubescent leaves and their inflorescence is sometimes reduced to a single flower (Judd & Skean 1991). *C. revolutum* and *P. reticulatus* also share the feature of locules extending into the free distal portion of the ovary with the new species.

Considering the difficulty of clarifying the generic limits within *Miconieae* and in view of the impossibility of solving the problem in the near future, the new species is here included in *Calycogonium,* in conformity with the traditional taxonomic position of the species group to which it is related.

***Calycogonium bissei*** Bécquer, **sp. nov.**
Holotype: Cuba, Holguín, Moa, Cuchillas de Moa, carretera de Moa a la Melba, 360 m, 20°31.484'N, 75°48.827'W, 24.6.2002, *J. D. Skean, E. R. Bécquer-Granados, L. R. González-Torres & J. Carrión 4275* (HAJB; isotypes: ALBION, B, HAJB, NY). – Fig. 1.

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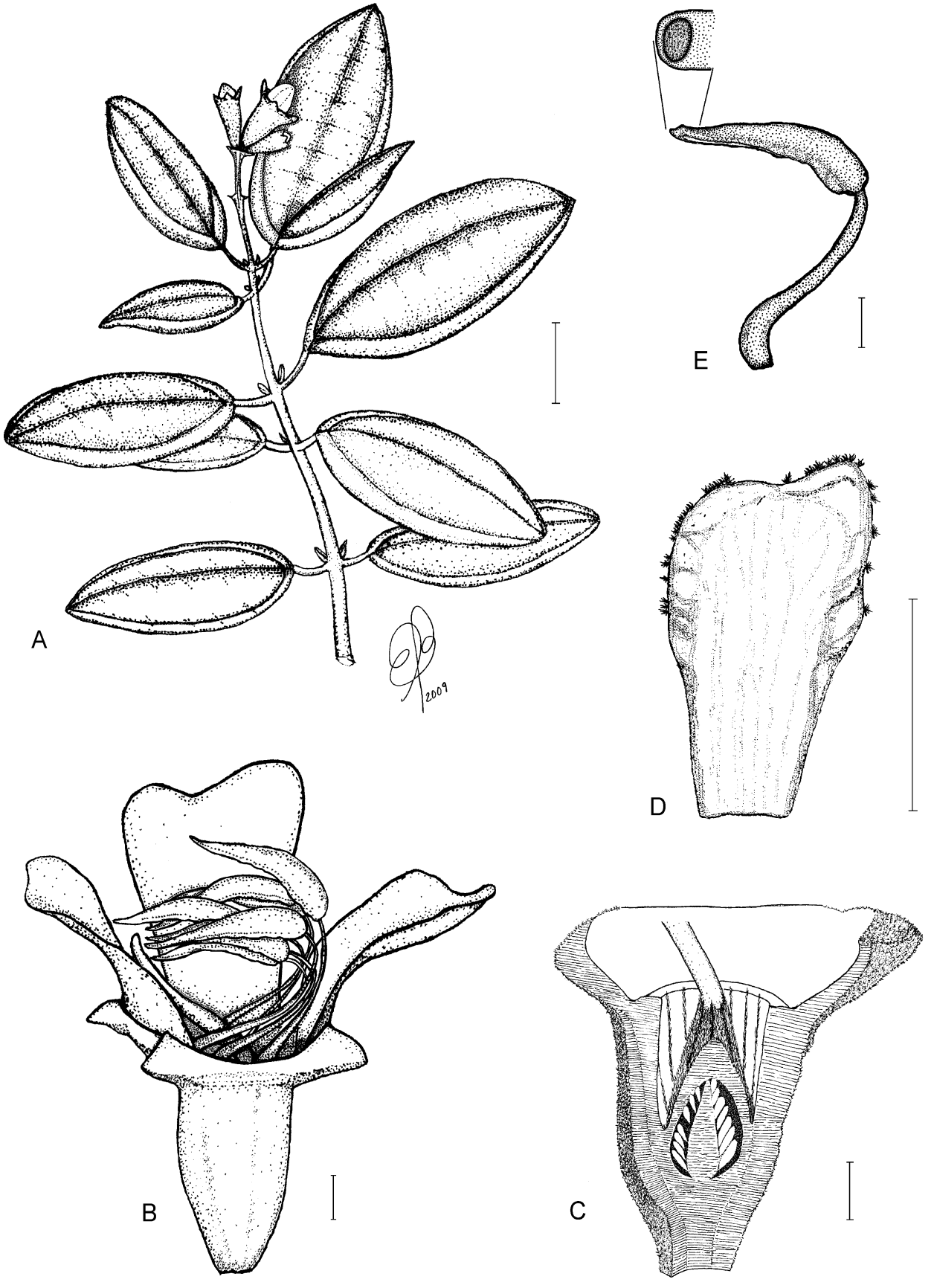


Fig. 1. *Calycogonium bissei* – A: flowering branch; B: flower; C: flower in longitudinal section (apically cut); D: petal; E: filament and anther in side view, with details of dorsal-apical pore in frontal view. – Scale bars: A = 1.3 cm; B, C, E = 1 mm; D = 5 mm. – Drawn by the author from the holotype.

A *Calycogonio revoluto* differt foliis ellipticis vel lanceolatis, 2.5–6.2 × 1.1–2.7 cm metientibus (nec lineari-lanceolatis, magnitudine 2–4 × 0.6–1 cm), paribus nervium secundariorum binis, quorum altero suprabasali nam 1–5 mm supra basin costae exoriente, supra impressis subtus prominentibus (nec pari nervorum singulo subbasali, c. 1 mm supra basin costae discedente, utrinque inconspicuo), floribus rite ternis in dichasio vel quaternis seu quinis in cyma fasciculata (nec plerumque solitaris), petalis exunguiculatis, 7–8 × c. 4 mm metientibus, secus marginem integrum parce stellato-pilosis (nec manifeste unguiculatis, magnitudine 1.7–1.8 × c. 1 cm, glabris).

*Shrub* 1.5–2 m tall, branched, evergreen. *Indumentum* of c. 0.1 mm long, stellate hairs present on young twigs, abaxial leaf surface, inflorescences, flowers and young fruits. *Young twigs* usually flattened or 4-angled in dry material, rusty-tomentose. *Mature branches* with smooth bark. *Leaves* with a *petiole* 0.6–1.5 cm long, terete, canaliculate above, densely rusty, becoming greyish tomentose with age; *blade* elliptic to lanceolate (Fig. 1A), 2.5–6.2 × 1.1–2.7 cm, coriaceous, obtuse to rounded and sometimes slightly apiculate, with obtuse to rounded base and revolute, entire margin; adaxial face flat, glabrous, bright green; abaxial face completely covered with a dense, light brown to rusty indumentum, turning grey with age; *venation* acrodromous, with two pairs of symmetrical (rarely asymmetrical) secondary veins, the outer pair arising basally, inconspicuous above, slightly raised beneath, the inner one suprabasal, originating 1–5 mm above the base; midveins and secondary veins impressed above, prominent beneath; tertiary veins inconspicuous above, prominulous beneath, ± perpendicular to the midveins; quaternary veins inconspicuous on either side; *mite domatia* absent. *Inflorescence* terminal, cymose (Fig. 1A), 2–3.5 × c. 1.5 cm; peduncle 0.5–2 cm long; flowers 3(–5), usually forming a 3-flowered dichasium, occasionally a 4–5-flowered fasciculate cyme with paired lateral flowers on either side; the terminal one subtended by shorter branches 2–5 mm long; bracts persistent through anthesis, later shed, lanceolate to obovate-lanceolate, sometime foliaceous, 0.5–1(–2) cm long; bracteoles paired, subulate, c. 2 mm long, early deciduous. *Flowers* 4-merous, slightly zygomorphic (Fig. 1B), the pedicel 1–2 mm long; *hypanthium* turbinate to campanulate, terete to slightly 8-ridged, c. 4 mm long, free portions of hypanthia c. 2 mm long, densely rusty-tomentose outside, slightly ridged and rusty-tomentose along the ridges within (Fig. 1C); *calyx* cup-shaped, with a c. 2 mm long tube; external calyx teeth c. 2 mm long, keeled at base, terete toward the obtuse apex, patent, densely rusty-tomentose, internal calyx lobes broadly triangular, 2.3–2.5 mm long, glabrous inside, ferrugineo-pubescent in the sinuses; *petals* white, not unguiculate, obovate, distally oblique, blunt, emarginate or notched, with a cuneate base, 7–8 × c. 4 mm; margin entire, with a loose fringe of stellate hairs (Fig. 1D), densely papillose on both faces; *stamens* 8, isomorphic, glabrous, deflexed to one side of flower at anthesis; filaments 5–6 mm long, flattened, geniculate at the base, white; anthers pinkish purple, 4–5 mm long, smooth; connective thickened toward base, thinning out toward apex, slightly projecting below the thecae and forming a pedestal, not bifurcate, elandular; thecae 2, slightly wrinkled, entire at base, with a dorsal-apical pore (Fig. 1E); *ovary* semi-inferior, 2-locular, apically lobulate, densely rusty-pubescent; locules extending into the free, conical distal portion (Fig. 1C); placentation axile, placentae not intrusive; style terete, attenuate apically, glabrous, c. 5 mm long, deflexed; stigma punctiform. *Berries* not seen, immature fruit with > 50 c. 1 mm long seeds.

*Etymology.* — The epithet it is dedicated to Prof. Dr Johannes Bisse, eminent German botanist, founder of the National Botanical Garden of Havana and Professor of Botany at the Faculty of Biology at Havana University, who dedicated his life to the education of several generations of Cuban botanists.

*Delimitation.* — *Calycogonium bissei* can be distinguished from *C. revolutum* by its elliptic to lanceolate leaves measuring 2.5–6.2 × 1.1–2.7 cm (versus linear-lanceolate and 2–4 × 0.6–1 cm in *C. revolutum*) with two pairs of secondary veins, the second pair suprabasal, arising 1–5 mm above the base, impressed above and prominent below (versus with a single pair of secondary veins arising c. 1 mm above the base, inconspicuous on both faces in *C. revolutum*), usually 3-flowered dichasia or 4–5-flowered fasciculate cymes (versus usually solitary flowers in *C. revolutum*), not unguiculate, obovate petals measuring 7–8 × c. 4 mm, with a fringe of scattered stellate hairs along the entire margin (versus conspicuously unguiculate, glabrous petals of 1.7–1.8 × c. 1 cm in *C. revolutum*).

*Phenology.* — Not much is known about the exact flowering period. Plants with buds, flowers and very young fruits have been collected in May and June; material with immature fruits has been collected also in December.

*Distribution and habitat.* — *Calycogonium bissei* is endemic to eastern Cuba (provinces of Holguín and Guantánamo), where it occurs in ± thorny xerophytic scrub and semidry montane rainforest on serpentine, at altitudes between 300 and 800 m. Associated species include *C. grisebachii* Triana, *Henriettea acunae* (Alain) Alain, *Miconia baracoensis* Urb., *M. uninervis* Alain, *Ossaea moaensis* Alain, *Lyonia lippoldii* Berazaín, *Odontosoria scandens* (Desv.) C. Chr., *Ouratea revoluta* (C. Wright) Engl., *Sticherus bifidus* (Willd.) Ching, *Bonnetia cubensis* (Britton) Howard, *Euphorbia helenae* Urb. and *E. munizii* Borhidi.

*Additional specimens examined.* — Cuba: Prov. Guantánamo: Baracoa, altiplano de la Mina Iberia, 600–700 m, monte nublado, 3.1968, *Bisse & Köhler HFC 6187, 6199* (HAJB, JE); Baracoa, Sta. María, charrascos y pluvisilva de montaña en el altiplano de la Mina Iberia, 700 m, 4.1975, *Areces & al. HFC 25641* (HAJB); Baracoa, Sta. María, altiplano de la Mina de Iberia, orillas del arroyo Iberia cerca del viejo campamento de mineros", 650 m, 4.1975, *Areces & al. HFC 25691* (HAJB); Loma de Buena Vista, parte oeste, 500–600 m, 12.8.1975, *Álvarez & al. HFC 27352* (B, HAJB, JE); Baracoa, Meseta de la Iberia, 700–800 m, charrascales, suelo ferralítico con perdigones de hierro, 28.3.2009, *Bécquer & al. HFC 85484* (HAJB). — Prov. Holguín: Moa, pluvisilva de montaña cerca de Mina Delta, 700 m, 6.1967, *Bisse & Rojas HFC 3158* (HAJB, JE); Moa, La Melba, charrascal cerca del aserrío, 400–500 m, 3.1968, *Bisse & Köhler HFC 7434* (HAJB, JE); Moa, charrascales en el altiplano de la Sierra de Moa, 600–900 m, monte nublado, 3.1968, *Bisse & Köhler HFC 7106* (HAJB, JE), 7.1.1969, *Bisse & Lippold HFC 12131* (HAJB, JE); Moa, La Melba, pluvisilva de montaña cerca del aserrío, 500 m, 27.12.1968, *Bisse & Lippold HFC 11538, 11650* (HAJB, JE); Moa, zona al este del Km 18 de la carretera de La Melba, 400–500 m, 6.5.1980, *Bisse & al. HFC 42878* (B, HAJB, JE); Moa, en el camino del aserrío La Melba, pluvisilva especial con *Bonnetia cubensis* degradada, 20.1.1988, *Berazaín & al. HFC 63284* (HAJB); Moa, subida al Alto de Calinga por el camino del norte, 800–1000 m, 4.5.1980, *Bisse & al. HFC 42733* (B, HAJB, JE); Moa, 2 km al este de Caimanes Abajo, 1.4.1988, *Claro & al. HFC 63597* (HAJB); Sierra de la Iberia, Taco bay, 11.4.1960, *L. Figueiras VO-613* (HAC, HAJB); Alto de la Iberia, 700 m, 23.3.1970, *Borhidi & al. SV-40018* (HAC).

**Acknowledgements**

I am grateful to the New York Botanical Garden, especially Dr Fabián Michelangeli, for support during my stay at that institution. I also thank the herbarium curators of B, GH, GOET, HAC, JE, NY and S for loans of *Pachyanthus* and *Calycogonium* material. Special thanks go to Dr Dan Skean for his support in the expeditions to E Cuba in 2002. I am indebted to Dr Rosalina Berazaín and Dr Rosa Rankin, Jardín Botánico Nacional de Cuba, for the revision of the manuscript, to Prof Dr Werner Greuter for translating the diagnosis into Latin, and to the latter, Dr Hermann Manitz and an anonymous reviewer for their improvements of a previous version.

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