Notes on Crossopetalum, Myginda and Gyminda (Celastraceae) from Cuba

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Notes on *Crossopetalum, Myginda* and *Gyminda (Celastraceae)* from Cuba

Abstract

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Taxonomic and nomenclatural results related to Cuba from a revision of the *Celastraceae* for the projects of the "Flora de la República de Cuba" and the "Flora of the Greater Antilles" are provided: *Crossopetalum orientale* is described as a species and *Myginda uragoga* subsp. *glabra* as a subspecies new to science, the combination *Gyminda latifolia* subsp. *glaucifolia* is validated, *C. coriaceum,* previously known only from the Bahamas, is reported for Cuba for the first time, the names *Myginda uragoga* and *Maytenus cuneifolius* (≡ *Torralbasia cuneifolia*) are neotypified and lectotypified, respectively and *C. spathulifolium* is placed in the synonymy of the latter name.

Introduction

The *Celastraceae* genera *Crossopetalum, Myginda* and *Gyminda* occur in the Caribbean and in adjacent S Florida, Mexico and Central America. They are glabrous or rarely puberulent small trees and shrubs with opposite, mostly entire leaves, 4-merous flowers 3-5 mm in diam. and small drupaceous fruits. The genera appear to be closely related and *Myginda* is often included in *Crossopetalum* (Edwin & Ding Hou 1975, Hammel 1997, Lundell 1961, Standley 1923, Standley & Steyermark 1949). However, already Urban (1904) has demonstrated that the three genera are distinct in generative characters. Their main differential features (Table 1) indicate a more separate position of *Gyminda,* while *Crossopetalum* and *Myginda* seem closely related.

Crossopetalum rhacoma, which provides the type of the generic name *Crossopetalum,* was described by Browne (1756) from Jamaica. Until 1959 (Little 1959) the genus was known as *Rhacoma* L. It contains about 13 species from Florida, the Bahamas and the Antilles to Venezuela. Nine species are endemics of Cuba. *Myginda uragoga*, which provides the type of the generic name *Myginda,* was described by Jacquin (1760). One species is distributed in W Cuba,

Table 1. The main differential features of *Crossopetalum, Myginda* and *Gyminda.*

Characters	*Crossopetalum*	*Myginda*	*Gyminda*
Flowers	androgynous	androgynous	unisexual
Petals	red or white	red or white	white
Gynoecium	4-locular	2-locular	2-locular
Ovule	atropous	atropous	anatropous
Style	4-lobed	2-lobed	2-lobed
Seeds per fruit	1-4	1	2
Postchalazal bundles	ramified, light brown	strongly ramified, dark brown to black	simple, light brown
Ratio endosperm to embryo	1.5-2 : 1	1 : 4-8	1 : 1

about 10 species occur from Mexico to Panama. *Gyminda latifolia,* which provides the type of the generic name *Gyminda,* was first described as *Myginda latifolia* by Swartz (1788) from the West Indies. Two species occur in Cuba, three species are distributed from Mexico to Panama and Venezuela.

The following notes related to Cuba result from the revision of the *Celastraceae* for the "Flora de la República de Cuba" and the "Flora of the Greater Antilles".

1. *Crossopetalum* P. Browne

1.1. *Crossopetalum orientale* Mory, **sp. nova** – Fig. 1
Holotype: Cuba, Guantánamo, Primera Terraza de Maisí, monte seco, calizo, 3.6.1982, *K.-F. Günther P[royecto] F[lora de] C[uba] 47542* (HAJB!; isotypes: B!, JE!).
= *Rhacoma crossopetalum* f. *angustifolium* Urb., Symb. Antill. 9: 74. 1904. – Lectotype (designated here): Cuba, *Wright 2209* (GOET!, isolectotypes: BREM (p.p.)!, NY!).

A *C. rhacoma* foliis plerisque anguste lanceolatis usque elliptico-oblongis 0.5-1 cm latis differt.

Note. – The differences between the new species, *C. rhacoma* and *C. coriaceum* are summarized in Table 2.

Ic. – Fig. 1; Mory 1992: 19, fig. 1a.

Shrub to 2 m tall, glabrous, young twigs flattened quadrangular, grey green. *Leaves* opposite or (rarely 3 together) ternate, yellow green (in sicco), narrow-elliptical, 20-36 × 5-9 mm, base cuneate to attenuate, apex attenuate to obtuse, venation brochidodromous, primary vein prominent on the lower surface, secondaries not visible, leaf margin crenulate, irregular denticulate; petioles 0.5 mm long, stipules gibbous, 0.2 mm broad and long. *Inflorescences* 3-, 7(-9)-flowered, pubescent; peduncles 5-10 mm long, pedicels 0.5-1.0 mm long, bracts deltate, 0.3-0.5 mm long; sepals semiorbicular, petals reddish; filaments 0.8 mm long, anthers rounded, 0.2 mm in diameter; disk flat, ± quadrangular; style 3 mm long, short-conical, stigma with 4 branches, 0.2 mm long. *Fruits* obovate to ovate, asymmetrical, reddish (in sicco), 4.5-6.0 × 3.0-4.5 mm, the persistent style 0.2 mm long. *Seeds* 4 mm long and 2 mm thick, dark reddish brown. – Flowering April to June, fruiting May to August.

Distribution. – The species is known from Cuba, the Bahamas and Hispaniola (Fig. 2); plants were collected in sandy beaches and limestone terraces near the sea.

Specimens studied. – See electronic supplement, http://www.bgbm.fu-berlin.de/bgbm/library/publikat/willd31/mory.htm.

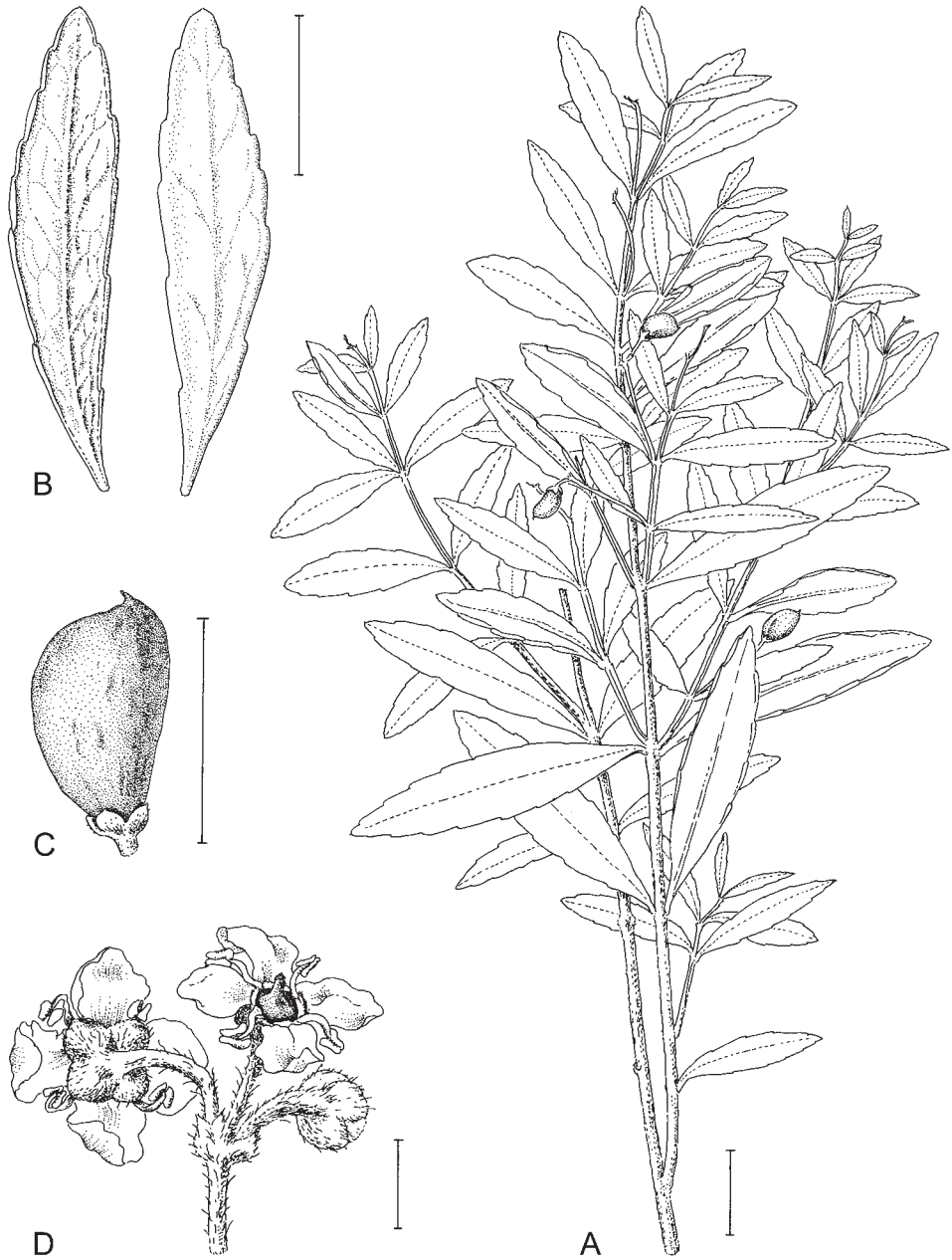

Fig. 1. *Crossopetalum orientale* – A: habit; B: leaves; C: fruit; D: flowers. – Scale bars A-B = 10 mm, C = 5 mm, D = 1 mm; drawing from the isotype at B by M. Rodewald.

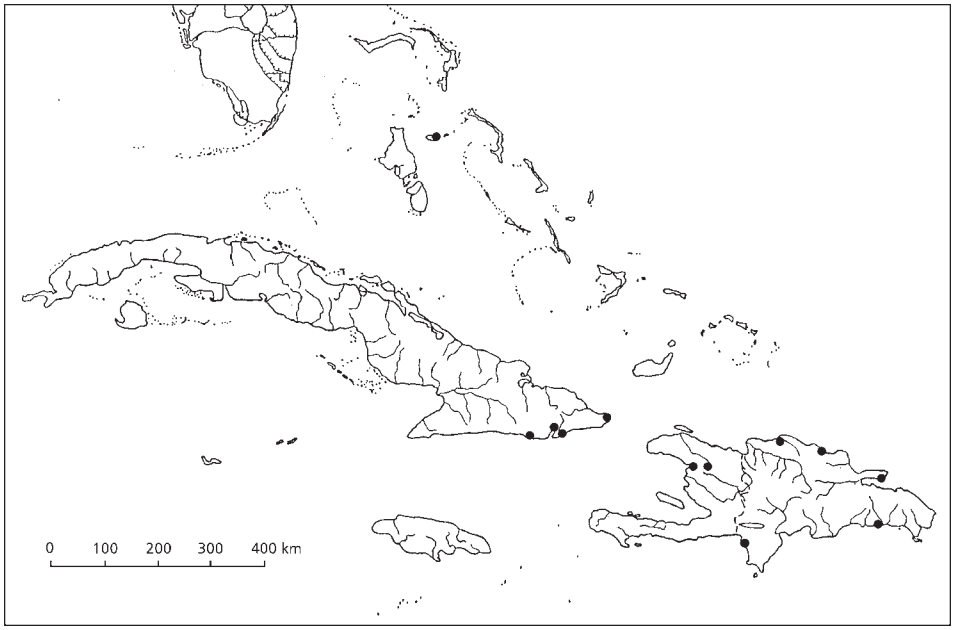

Fig. 2. Distribution of *Crossopetalum orientale* Mory.

Table 2. Diagnostic characters in the *Crossopetalum rhacoma* group.

Character	*C. orientale*	*C. rhacoma*	*C. coriaceum*
Leaves			
shape	narrow-elliptical	narrow-obovate to elliptical	broadly oblanceolate
length × width [mm]	20-36 × 5-9	20-45 × 9-20	15-20 × 5-10
width : length	1 : 3-4	1 : 2-2.5	1 : 2-3
texture	papery to leathery	papery	coriaceous
margin	crenulate	crenulate-serrulate	± crenulate, ± revolute
base	cuneate to attenuate	cuneate to attenuate	cuneate
apex	attenuate to obtuse	obtuse, rarely attenuate	obtuse
secondary vein pairs	4-5	5-7	4-5
width [mm] of intercosta fields	2-4	3-5	1.5-3.5
number of free ends of veins/mm^2	10-14	18-23	30-35
Distribution	Cuba, Bahamas, Hispaniola	Florida, West Indies, N Central America, Columbia	Bahamas, Cuba

1.2. A new record for Cuba

Crossopetalum coriaceum Northr. in Mem. Torrey Bot. Club 12: 48. 1902.
≡ *Rhacoma coriacea* (Northr.) Urb., Symb. Antill. 5: 71.1904. – Type: Andros, savannas at Red Bay, 4.1890, *Northrop* 480 (K!, isotype).

Ref. – Britton & Millspaugh 1920: 247; Correll & Correll 1982: 865; Mory 1992: 22.

Ic. – Northrop 1902: pl. 9; Mory 1992: 19, fig. 1c.

Low shrub, branchlets quadrangular, ends somewhat angled on wings. *Leaves* numerous, coriaceous, broadly oblanceolate, 15-20 × 5-10 mm; base cuneate, apex obtuse, lower surface wrinkled (in sicco), venation brochidodromous, primary vein only visible on the lower surface, secondaries inconspicuous, margin somewhat revolute, ± crenate; petiole 1-2 mm long, stipules gibbous, pubescent. *Inflorescences* 2-, 5- to mostly 7-flowered, in axillary subsessile cymes, peduncles 5-8 mm long, pedicels 1-2 mm long, bracts narrowly deltate, 0.3 mm long, puberulous; sepals semiorbicular, 0.5 × 0.5-0.8 mm, puberulous; petals ovate, 1.0 × 0.7 mm, reddish, spreading or at the length reflexed; filaments subulate, 0.5 mm long, anthers small, globose, 0.3 mm in diameter; disk quadrangular, ovary globose; style 0.4 mm long, stigma 4-lobed. *Fruit* a red drup, slightly obovate, 3-4 mm long, mucronulate through the style, sepals and petals persistent at the mature fruit. – Flowering in April to June; fruiting in July to October.

Distribution. – The species is distributed in the Bahamas (Andros, New Providence, Eleuthera, Great Guana Islands) and is here reported for the first time also for Cuba, where it is only known from Cayo Sabinal (Prov. Camagüly) and the Cayos del Canal Nuevo (Prov. Ciego de Avila). The plants grow in savannas, coppices and sand dunes.

Specimens studied. – See electronic supplement, http://www.bgbm.fu-berlin.de/bgbm/library/publikat/willd31/mory.htm.

1.3. Nomina excludenda

Crossopetalum spathulifolium (Urb.) Rothm. in Feddes Repert. Spec. Nov. Regni Veg. 53: 10. 1944 ≡ *Rhacoma spathulifolia* Urb., Symb. Antill. 5: 70.1904. – Type: "Cuba prope Santiago in Sierra Maestra", Jul. flor., *Linden 2009* (BM!, K!) = ***Torralbasia cuneifolia*** (C. Wright ex Griseb.) Krug & Urb. in Seguí, Flor. Med. Tóx. Cuba: 60. 1900 ≡ *Euonymus cuneifolius* C. Wright ex Griseb. in Mem. Amer. Acad. Arts Sci., ser. 2, 8: 171. 1861 ≡ *Maytenus cuneifolius* (C. Wright ex Griseb.) Griseb., Cat. Pl. Cub.: 54. 1866. – Lectotype (designated here): Cuba, *Wright 81b* (GOET!).

Note. – Linden 2009, the type of the name *Rhacoma spathulifolia,* is easily recognizable as *Torralbasia cuneifolia* by the alternate obovate leaves with a revolute margin and a cuneate base.

Crossopetalum caymanense Proctor = ***Myginda uragoga*** Jacq., see below.

2. Gyminda latifolia subsp. ***glaucifolia*** (C. Wright ex Griseb.) Mory, **comb. & stat. nov.**

≡ *Myginda integrifolia* f. *glaucifolia* C. Wright ex Griseb., Cat. Pl. Cub.: 55. 1866 ≡ *Gyminda grisebachii* var. *glaucescens* Sarg. in Gard. & Forest 4: 4. 1891. – Holotype: Cuba, 1863, *Wright 81a* (GOET!, isotypes: BM!, HAC!, K!, S!).

Leaves orbicular, elliptical to obovate, 14-24 × 10-16 mm, base obtuse to cuneate-attenuate, apex rounded to obtuse; lamina with 3 to, rarely, 5 pairs of scarcely visible secondary veins; leaf margin plain.

Note. – Gyminda latifolia subsp. *glaucifolia* is distinguished from subsp. *latifolia* by the leaf shape (see Table 3) and its distributional restriction to the mountains of W Cuba in contrast to the wider coastal and lowland distribution of the latter.

Distribution. – *Gyminda latifolia* subsp. *glaucifolia* is endemic to W Cuba and grows in the mountains, predominantly on the limestone cliffs (mogotes).

Specimens studied. – See electronic supplement, http://www.bgbm.fu-berlin.de/bgbm/library/publikat/willd31/mory.htm.

Table 3. Comparison between the Cuban *Gyminda* taxa.

Characters	*G. latifolia* subsp. *latifolia*	*G. latifolia* subsp. *glaucifolia*	*G. orbicularis*
Leaves			
shape	elliptical	obovate	orbicular
length × width [mm]	25-42 × 14-22	10-16 × 14-24	6-11 × 5-10
width : length [mm]	1 : 1.8-2.4	1 : 1.3-1.7	1 : 1.1-1.2
margin	often entire	minutly crenate	rarely crenate, apex emarginate
secondary vein pairs	5-7, visible	3-5, ± visible	3, not visible
Distribution	S Florida, West Indies, Mexico	W Cuba	E Cuba

3. *Myginda* Jacq.

3.1. *Myginda uragoga* Jacq., Enum. Syst. Pl.: 12. 1760 [& Select. Stirp. Amer. Hist.: 24, t. 16. 1763] ≡ *Rhacoma uragoga* (Jacq.) Baill., Hist. Pl. 6: 27. 1877 ≡ *Crossopetalum uragoga* (Jacq.) Kuntze, Revis. Gen. Pl. 1: 116. 1891. – Neotype (designated here): Cuba, Isla de Pinos, camino de Carapachibey a Cocodrilo, 26.10.1976, *Bisse & al. P.F.C. 32904* (HAJB!; isotypes: B!, JE!). = *Crossopetalum caymanense* Proctor in Sloanea 1: 2. 1977. – Holotype: Grand Cayman, along track between Old Isaacs and Wintersland, in dry rocky shrubland, 22.4.1956, *Proctor 15184* (IJ!, isotype: BM!).

Notes on the typification. – The diagnosis of Jacquin's *Myginda uragoga,* in the "Enumeratio systematica plantarum", consists only of the species' classification as "tetrandria tetragynia" and its characterization as a perennial. The brevity of the specific descriptions in fact constitutes the main difficulty of working with the "Enumeratio" (Howard 1973). No reference to material, on which the diagnosis of *M. uragoga* is based, is given, and no original material is preserved. For an interpretation of the binomials validated in the "Enumeratio" it is recommended to make use of the respective passages in Jacquin's "Selectarum stirpium americanarum historia" of 1763 (Stafleu & Cowan 1979: 408). This publication contains on p. 24 a more substantial description and with t. 16 an illustration of the plant. The flowering and fruiting branch pictured is unequivocally the species currently so named and has been identified so by all previous workers (see, e.g., Richard 1841-51: 141, Grisebach 1859-64: 146, Urban 1904: 49). The description on p. 24, in contrast, would also match a species of *Crossopetalum,* and the provenances Cartagena (Columbia) and St Martin (Jamaica) given there, actually may refer to *C. rhacoma* rather than to *Myginda uragoga*, which is only known from W Cuba and Yucatan. Hence it appears that the description of 1763 is based on heterogeneous material. Lectotypification of the name *Myginda uragoga* is not possible since no original material is known; t. 16 is not eligible because it is predated by the protologue. The specimen here chosen as neotype is in accordance with both the protologue and the established use of the name.

3.2. *Myginda uragoga* subsp. ***glabra*** Mory, **subsp. nova**

Holotype: Cuba, Pinar del Río, Minas de Matahambre, Sumidero, Cueva del Resolladero en el Valle de Pica-Pica, 17.5.1984, *P.F.C. 54681* (HAJB!, isotype: B!).

A subspecie *uragoga* foliis non pubescentibus, subrotundis (15-26 mm latis et 1.0-1.5 longioribus quam latioribus) differt.

Plant glabrous or subglabrous, leaves orbicular to elliptical, 17-27 × 15-26 mm, leaf base and apex rounded.

Note. – Besides the minor but constant morphological features given in the diagnosis, *Myginda uragoga* subsp. *glabra* is distinguished from subsp. *uragoga* by a separate distribution area. This combination of characters makes the rank of a subspecies appropriate for the taxon from western Cuba.

Distribution. – Endemic to W Cuba. Till now collected only in the valley Pica-Pica near Sumidero.

Specimens studied. – See electronic supplement, http://www.bgbm.fu-berlin.de/bgbm/library/publikat/willd31/mory.htm.

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References

Britton, N. L. & Millspaugh, C. F. 1920: The Bahama flora. – Lancaster, PA.

Browne, P. 1756: The civil and natural history of Jamaica. – London.

Correll, D. S. & Correll, H. B. 1982: Flora of the Bahama archipelago (including the Turks and Caicos Islands). – Vaduz.

Edwin, G. & Ding Hou 1975: *Celastraceae*. – [In: Woodson Jr., E. & Schery, R. W. (ed.), Flora of Panama 4]. – Ann. Missouri Bot. Gard. **62:** 45-56.

Grisebach, A. H. R. 1859-64: Flora of the British West Indian Islands. – London.

Hammel, B. E. 1997: Three new species of *Celastraceae* from Costa Rica, one disjunct from Mexico. – Novon **7:** 147-155.

Howard, R. A. 1973: The Enumeratio and Selectarum of Nicolaus von Jacquin. – J. Arnold Arb. **54:** 435- 470.

Jacquin, N. J. 1760: Enumeratio systematica plantarum, quas in insulis Caribaeis vicinaque Americes continente detexit novas, aut jam cognitas emendavit. – Lugduni Batavorum.

Little Jr., E. L. 1959: Proposal to conserve the generic name 4648a. *Rhacoma* L. against *Crossopetalum* P. Br. (both of *Celastraceae*). – Taxon **8:** 25-26.

Lundell, C. L. 1961: *Celastraceae.* – [In: Lundell, C. L., Plantae mayanae, 4. New species, nomenclatural changes, and new records for trees and shrubs of Mexico and Central America]. – Wrightia **3:** 7-9.

Mory, B. 1992: Zur Blattnervatur antillanischer Arten der Gattung *Crossopetalum* P. Br. *(Celastraceae).* – Flora **187:** 17-36.

Richard, A. 1841-51: Plantes vasculaires. – In: Sagra, R. de la (ed.), Histoire physique, politique et naturelle de l'Ile de Cuba, Botanique **10.** – Paris.

Standley, P. C. 1923: *Celastraceae.* – [In: Standley, P. C., Trees and shrubs of Mexico *(Oxalidaceae-Turneraecae)*]. – Contrib. U.S. Natl. Herb. **23(3):** 676-685.

— & Steyermark, J. A. 1949: *Celastraceae.* – [In: Standley, P. C. & Steyermark, J. A. (ed.), Flora of Guatemala 6]. – Fieldiana (Bot.) **24(6):** 201-218.

Swartz, O. P. 1788: Nova genera & species plantarum seu Prodromus descriptionum vegetabilium maximam parte incognitorum quae sub itinere in Indiam occidentalem annis 1783-87 digesit Olof Swartz. – Holmiae, etc.

Underwood, L. M. 1905: A summary of Charles Wright's explorations in Cuba. – Bull. Torrey Bot. Club **32:** 291-300.

Urban, I. 1904: Über einige Celastraceen-Gattungen. – Pp. 48-58 in: Urban, I. & Graebner, P. (ed.), Festschrift zur Feier des 70. Geburtstages des Herrn Prof. Dr. Paul Ascherson. – Leipzig.

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