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Author(s): Gonzalo Castillo-Campos and Ma. Elena Medina Abreo
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A New Species of *Casearia* (Flacourtiaceae) from Mexico

Gonzalo Castillo-Campos
Departamento de Sistemática Vegetal, Instituto de Ecología, A.C., km 2.5 Carretera Antigua a Coatepec No. 351, Congregación El Haya, 91070, Xalapa, Veracruz, México. Author for correspondence: castillo@ecologia.edu.mx

Ma. Elena Medina Abreo
Departamento de Diagnóstico Regional, Instituto de Ecología, A.C., km 2.5 Carretera Antigua a Coatepec No. 351, Congregación El Haya, 91070, Xalapa, Veracruz, México. medinama@ecologia.edu.mx

ABSTRACT. *Casearia guevarana,* a new species of Flacourtiaceae from the coastal dunes of the Natural Reserve "El Morro de la Mancha," from the states of Veracruz and Tabasco, Mexico, is described and illustrated. Its affinities with the closely related species *C. aculeata* Jacquin and *C. obovata* Schlechtendal are discussed. This new species differs from its congeners by having broadly obtuse leaf apices, large, six-channeled fruits, and larger, more numerous seeds.

RESUMEN. Se describe como nueva a *Casearia guevarana* (Flacourtiaceae) de las dunas costeras de la Reserva Natural El Morro de La Mancha, Veracruz y Tabasco, México. Esta nueva especie está cercanamente relacionada con *Casearia aculeata* Jacquin y *C. obovata* Schlechtendal, de las que se distingue por presentar el ápice de las hojas ampliamente obtuso, frutos 6-acanalados y de mayor tamaño, con semillas más grandes y más numerosas.

Key words: *Casearia,* coastal, dunes, Flacourtiaceae, La Mancha, Mexico, Tabasco, Veracruz.

In 1998, during an inventory of trees and shrubs associated with an evergreen seasonal rainforest at the Nature Reserve and Center for Coastal Research at La Mancha (CICOLMA) in Veracruz, Mexico, a tree rarely seen in the middle stratum of the forest was sampled and reported. At the time, this tree was totally lacking reproductive structures, so that it was only possible to classify it with any certainty to the genus *Casearia* (Flacourtiaceae). However, during two years subsequent to this initial find, flowers (2000) and fruits (2001) were obtained. After having examined and compared vouchers of *C. aculeata* and *C. obovata* with those recently collected from the Natural Reserve of La Mancha, it was found that they corresponded to an undescribed species. Based upon this additional information, this specimen was considered to represent a new species. Its detailed description is reported below.

Casearia Jacquin is a pantropical genus of about 180 species of trees and shrubs. It is most diverse in (sub)tropical Central and South America, where some 75 species occur, including 8 in Veracruz. The genus is subdivided into six sections, the largest, and only one to occur outside of the Neotropics, is section *Casearia.* Three of the sections are represented in Veracruz: sect. *Crateria,* sect. *Piparea,* and sect. *Casearia.* Section *Casearia* is further divided into six informal groups, three of which occur in Veracruz, i.e. Nitidae, Aculeatae, and Decandrae.

The newly described *Casearia guevarana* has an undivided style, free stamens, and free interstaminal disc lobes. These characters place the species in *Casearia* sect. *Casearia.* The following characters place the species in section *Casearia,* group Aculeatae: an undivided style, at times obsolete, and capitate stigma; plants generally with spines, at times not present in herbarium vouchers; and stamens generally 8, flowers more or less tubular, base obtuse-truncate often slightly swollen just before flowering. Two other species of the Aculeatae group occur in Veracruz, *C. aculeata* and *C. obovata.*

Casearia guevarana Castillo-Campos & Medina, sp. nov. TYPE: Mexico. Veracruz: Nature Reserve "El Morro de la Mancha," Mun. Actopan, approx. 10 m, 24 May 2001, *G. Castillo C. 20801* (holotype, XAL; isotypes, ENCB, MEXU). Figure 1.

Arbor 3–6 m alta erecta spinis rectis munita vel inermis; foliis oppositis vel alternis, ellipticis vel ovatis, pe-

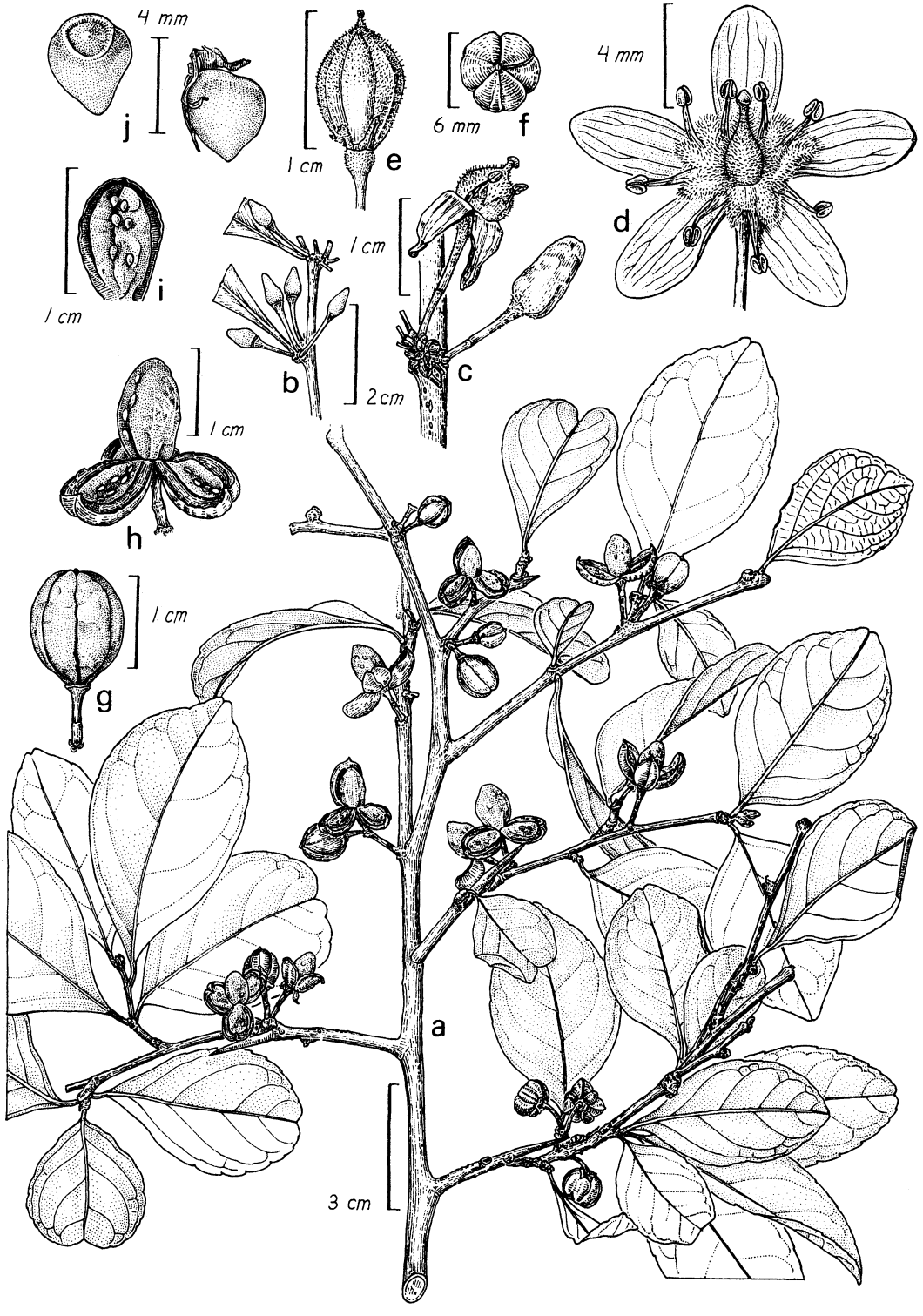

Figure 1. *Casearia guevarana* Castillo-C. & Medina. —a. Branch with infructescence. —b. Inflorescence in bud. —c. Detail of the inflorescence with bracts. —d. Detail of an open flower in natural state. —e. Immature fruit. —f. Detail of fruit apex. —g. Mature fruit. —h. Open fruit. —i. Valve. —j. Seed. (Based on the paratype *Castillo 19902*.)

tiolatis, 2.0–8.8 cm longis, 1.4–4.2 cm latis. Flores albi perfecti pedicellati, pedicellis ad dimidium articulatis; sepalis 5 ovatis, 5–6 mm longis, 2.2–2.5 mm latis; staminibus 8. Fructus capsularis subglobosus, juventute 3-costatus, maturitate 6-canaliculatus.

Perennial tree or shrub; 3–6 m high; trunk about 20 cm diam.; bark smooth; older branches brown; prickles brown to ash-gray, darker at prickle apex; in young branches, frequently ending in a prickle, or prickle-less, pubescent, lenticellate; prickle straight (when present), 0.7–1.7 cm long, 1–2.5 mm wide at base, basal half lenticellate, apex acute. Leaves alternate, distichous, simple, petiolate, obovate-elliptic, 2–8.8 cm long, 1.4–4.2 cm wide, coriaceous; base attenuate, cuneate, apex broadly obtuse, frequently shallow-emarginate; margin crenate with 3 to 10 teeth per side, upper and lower surface lustrous with a few scattered hyaline hairs on the underside, glabrescent; venation brochidodromous, central vein pubescent on both surfaces, more densely so on the upper surface, lateral veins 3 to 7, tertiary venation reticulate. Petiole 2–6 × 0.5–0.8 mm, pubescent on upper and underside. Flowers bisexual, 1 to 11 (frequently 3) in axillary peduncled fascicles, white. Bracts ovate, 0.5–1.1 × 0.5–1.0 mm, pubescent, chartaceous, with acute apex and entire margin, yellowish when young, turning to light green and then light brown when mature. Pedicels 5–11 × 0.5 mm, articulate near middle, glabrescent. Sepals 5, imbricate, 5–6 × 2.2–2.5 mm, spreading, ovate, with obtuse apex and entire margin, outside glabrescent, inside glabrous, deciduous although frequently persistent in immature fruits. Stamens 8, filaments 3.5 mm long, flattened, glabrous; anthers 0.5 × 0.5 mm. Disc lobes alternate with stamens, villous. Ovary ovoid, villous; style undivided; stigma capitate, 0.6–0.8 mm long. Fruit capsular with septicidal dehiscence, subglobose, 3-ribbed when immature, 6-channeled when mature (3 prominent channels, 3 shallow), 9–14 × 7–10 mm, green when young and yellowish when mature, purple at base and along the more prominent channels, splitting into 3 valves, retrorse, 5–10 × 5–7 mm; endocarp red at maturity, the inner surface of each valve with 1–7 small white spots. Seeds 16–21, yellow to orange at maturity, brilliant, usually ovate, angular, 3–6 × 2–4.5 mm, base truncate; seed coat reticulate, completely covered by aril, aril mucilaginous, orange with small white spots.

Phenology. *Casearia guevarana* flowers and fruits between May and November, and its flowering and fruiting periods are brief. Flowers and fruits are fragile, detaching easily as branches are moved by the wind. Young fruits are ribbed, but at maturity these are lost and substituted by channels or longitudinal depressions. These characters are lost in dried specimens because well-developed fruits open during the drying process.

Habitat. *Casearia guevarana* is found in evergreen seasonal rainforest along the coastal dunes of El Morro de la Mancha in central Veracruz, Mexico. A rare tree forming part of the middle stratum of the tropical deciduous forest, it is associated with *Brosimum alicastrum* Swartz, *Bursera simaruba* (L.) Sargent, *Cedrela odorata* L., *Ehretia tinifolia* L., *Enterolobium cyclocarpum* (Jacquin) Grisebach, *Exostema mexicanum* A. Gray, *Ficus cotinifolia* Kunth, *Ginoria nudiflora* (Hemsley) Koehne, *Gyrocarpus jatrophifolius* Domin, *Tabebuia rosea* (Bertoloni) DC., and *Nectandra salicifolia* (Kunth) Nees.

Distribution. *Casearia guevarana* has a limited distribution, being found in just two localities: one in the state of Veracruz and the other in the state of Tabasco. Both sites occur on the coastal plain of the Gulf of Mexico in evergreen seasonal rainforest at above sea level.

Etymology. The specific epithet alludes to Sergio Guevara Sada, paying particular homage to his research and enthusiasm in consolidating and promoting the Nature Reserve and Center for Coastal Research at La Mancha (CICOLMA), Veracruz, Mexico.

Discussion. *Casearia guevarana* is closely related to *C. aculeata* and *C. obovata*, with which it shares certain morphological characteristics, especially the presence of prickles, leaf form, petiole length, pedicel articulation, number of stamens, pubescence of disc lobules, and ovary and flower color. *Casearia guevarana* is distinguished from *C. aculeata* and *C. obovata* by its glabrous, lustrous leaves; broadly obtuse leaf apices; larger, six-channeled fruit; and larger, more numerous seeds (Table 1). *Casearia aculeata* and *C. obovata* are similar, differing only in leaf form, apex, and pubescence (Nee, 1999). *Casearia obovata* and *C. guevarana* are endemic to Mexico, whereas *C. aculeata* has a much wider distribution, from Sinaloa and Tamaulipas in northern Mexico to South America and the Antilles (Sleumer, 1980; Nee, 1999).

Paratypes. MEXICO. **Tabasco:** km 21 along the highway that runs from Paraíso to La Barra de Tupilco, Mun. Paraíso, *M. A. Magaña A. 482* (XAL); km 1.7 along the highway from Nicolás Bravo-Mecoacan to Aquíles Serdán, Mun. Paraíso, *Cowan 3205* (ENCB). **Veracruz:** nature reserve at El Morro de La Mancha, Mun. Actopan, *G. Castillo C. 19902, 19238* (ENCB, MEXU, XAL).

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Table 1. Similarities and differences between *Casearia guevarana*, *C. aculeata*, and *C. obovata* (Sleumer, 1980; Nee, 1999).

		Casearia guevarana	*Casearia aculeata*	*Casearia obovata*
Leaf	Shape	obovate, elliptic	oblong, ovate-oblong, obovate	obovate
	Pubescence	glabrous, except on the central vein	pubescent to glabrous	pubescent
	Length (cm)	2.0–8.8	5–8	3.5–9.0
	Width (cm)	1.4–4.2	3–4	2–5
	Apex	broadly obtuse, frequently emarginate	abruptly attenuate	abruptly acuminate
	Base	attenuate, cuneate	acute to obtuse	acute to obtuse
Petiole	Length (mm)	2–6	2–6	3–10
Flower	Number	1 to 11, frequently 3	5 to 10	few
	Color	white	yellow-green, white	green-white
	Stamens	8	8	8
	Filament	glabrous	glabrous	glabrous
	Disc lobed	villous	villous	villous
	Ovary	villous	villous	pubescent
Pedicel	Length (mm)	5–11	4–6	3–8
	Articulation	present	present	present
Fruit	Shape	subglobose, 6-channeled	subglobose, obtusely triangular	subglobose
	Length (mm)	9–14	5–6	6–8
	Width (mm)	7–10	5–8	6–8
Seed	Number	16–21	3–10	few
	Length (mm)	3–6	4	2.5
	Shape	ovoid to angular	ovoid to angular	ovoid to angular

of *Casearia guevarana* and for his comments on the manuscript. Thanks are also given to Francisco Lorea H. and Andres P. Vovides for their sound suggestions on the manuscript, Edmundo Saavedra for preparing the illustration, to the herbaria MEXU and ENCB for loan of specimens used in this research, and to Dan Bennack for translating the original article from Spanish to English. This research was funded by CONABIO (L-228) and Instituto de Ecología, A. C. (904–14).

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