

THE GENUS HOMALIUM IN AMERICA.

By S. F. BLAKE.

INTRODUCTION.

The genus *Homalium*, based on the single species *H. racemosum*, from Martinique, was established by Jacquin¹ in 1760, and in 1763 a more extended description with a figure of the flower was given in his *Selectarum Stirpium Americanarum Historia*.² In 1775 Aublet³ described the new genus *Racoubea* from French Guiana, based on a single species, *R. guianensis*, and with it the genus *Napimoga*,⁴ which has since been considered a more or less doubtful synonym of *Homalium*. Jussieu,⁵ in his *Genera*, referred *Racoubea* to *Homalium* as a synonym, a treatment which has been followed by all subsequent authors, and placed both *Homalium* and *Napimoga* in his group "Genera Rosaceis affinia." Robert Brown⁶ in 1818 made the genus *Homalium* the type of a new order, Homalinae, a classification retained by various authors down to 1857. In Bentham and Hooker's *Genera Plantarum* the genus was placed in the Samydaceae, and in the *Natürlichen Pflanzenfamilien* of Engler and Prantl in the tribe Homalieae of the family Flacourtiaceae.

Only two revisionary treatments of the American species of the genus have been published. Bentham,⁷ revising the genus in 1860, recognized five American species, one from Mexico, one from the West Indies, and three from northern South America, two of which were described as new from Spruce's collections. In 1871 Endlicher⁸ recognized five species from Brazil and adjacent regions, one being here first published. *Homalium cuneifolium* Willd., likewise described for the first time in this connection, is accredited by the *Index Kewensis* to Brazil, but the habitat is said by Endlicher to be unknown, and from the characters given it is clear that the plant belongs to the Old World group of species. Since Bentham's and Endlicher's treatments only three species have been described from America, one each from Oaxaca, Honduras, and Jamaica. In the study of the material accumulated within the last twenty years at the National Museum, the Gray Herbarium, and the herbarium of the

¹ Enum Pl. Carib. 5.

² 170. pl. 183, f. 72.

³ Pl. Guian. 1:589. pl. 236.

⁴ Op. cit. 592. pl. 237.

⁵ Gen. Pl. 343. 1789.

⁶ Narr. Exp. Congo App. 438.

⁷ Journ. Linn. Soc. Bot. 4:31-38.

⁸ In Mart. Fl. Bras. 13¹:505-508. pl. 101.

New York Botanical Garden a number of new species have been distinguished, so that it seems desirable in connection with their description to present a summary of the species now known from America.

All the American species of the genus are very closely related and belong to the section *Racoubea* of the subgenus *Myriantheia*, as the genus is arranged by Warburg in the *Pflanzenfamilien*. The characters of most significance for the separation of the species are found in the sessile or pedicellate flowers, the number of stamens in the fascicles, the separate or united style bases, the pubescence of the leaves, and the shape of the perianth segments.

Reference has already been made to the doubtful association of Aublet's genus *Napimoga* with *Homalium*. Bentham in 1860 was of the opinion that it "can scarcely be a congener, not having the characteristic glands; the analyses given, rude as they are, are not to be depended on for correctness, and afford no evidence of the plant belonging even to the same natural order." In Bentham and Hooker's *Genera* and in later general works, however, *Napimoga* is referred without comment to *Homalium*. It seems to the writer, in view of the important differences indicated by Aublet's description and figures, that Bentham's earlier view is the correct one, and that the genus *Napimoga* should again be placed in the list of genera of uncertain position.

In addition to the material in the National Herbarium, to which have recently been added the specimens of this genus in the herbarium of Captain John Donnell Smith, I have been able through the kindness of Dr. N. L. Britton and Dr. B. L. Robinson to study the material in the herbarium of the New York Botanical Garden and the Gray Herbarium. The location of the specimens cited has been indicated in parenthesis.¹

¹ G=Gray Herbarium; N=U. S. National Herbarium; Y=Herbarium of the New York Botanical Garden.

SYSTEMATIC TREATMENT.

KEY TO SPECIES.

- Flowers sessile or subsessile (pedicels 1 mm. long or less).
- Leaf blades densely griseous-puberulous beneath; styles distinct; stamens shorter than the petals4. *H. puberulum*.
- Leaf blades glabrous beneath or merely sparsely pubescent along costa and sometimes along veins or in their axils; styles united at base into a column; stamens equaling or exceeding the petals.
- Calyx segments 0.8 to 1.2 mm. long; petals 1.8 to 2.4 mm. long, 1.3 to 1.8 mm. wide1. *H. densiflorum*.
- Calyx segments 1.2 to 2.7 mm. long; petals 2.5 to 3.4 mm. long, 1.5 to 2.5 mm. wide.
- Leaves 6.5 to 13.3 cm. long, incurved-puberulous on costa beneath; ovary griseous-villous2. *H. guianense*.
- Leaves 14.5 to 17.5 cm. long, spreading-pilose on costa beneath; ovary sparsely pilose3. *H. nicaraguense*.
- Flowers distinctly pediceled (pedicels 1 to 7 mm. long).
- Leaf blades more or less densely pilosulous over whole surface beneath.
- Calyx tube rounded at base; stamens in fascicles of 4 to 7, their filaments pilose to middle or higher5. *H. mollicellum*.
- Calyx tube contracted into a pediform base; stamens in fascicles of 3, their filaments glabrous12. *H. trichocladum*.
- Leaf blades glabrous beneath or merely barbellate in the axils of the veins, rarely sparsely pubescent along costa and nerves.
- Styles united into a short column at base.
- Ovary glabrous or with a very few long hairs7. *H. leiogynum*.
- Ovary densely villous.
- Stamens in fascicles of 4 to 8; calyx segments elliptic-ovate or ovate, 1.5 to 2 mm. wide6. *H. pleiandrum*.
- Stamens in fascicles of 3 to 5; calyx segments lanceolate to ovate, 0.7 to 1.8 mm. wide.
- Younger branchlets glabrous or obscurely puberulous; leaf blades glabrous above; petioles glabrous, 2 to 7 mm. long....8. *H. hemisystylum*.
- Younger branchlets griseous-puberulous and sparsely spreading-pilose; leaf blades puberulous along midrib above; petioles puberulous and pilose, 8 to 12 mm. long13. *H. pedicellatum*.
- Styles distinct to base.
- Stamens in fascicles of 5 to 7, pilose to middle17. *H. trichostemon*.
- Stamens in fascicles of 2 to 4, glabrous or pilose below.
- Calyx segments 4 to 5 mm. long; petals 5.5 to 7 mm. long.
- Calyx segments narrowly lanceolate or subulate-lanceolate, 1 to 1.3 mm. wide; leaf blades glabrous above18. *H. stenosepalum*.
- Calyx segments ovate or elliptic, 1.8 to 2.5 mm. wide; leaf blades densely incurved-puberulous along costa above19. *H. eurypetalum*.
- Calyx segments 1.5 to 3.6 mm. long; petals 2.5 to 5 mm. long.
- Filaments pilose to middle. Calyx segments 0.6 to 0.7 mm. wide.16. *H. columbianum*.
- Filaments glabrous or sparsely pilose at base.
- Calyx segments 0.5 to 0.8 mm. wide; leaf blades 5.5 to 8.7 cm. wide.15. *H. hondurense*.

Calyx segments 1 to 1.8 mm. wide, rarely narrower; leaf blades 2.4 to 6 cm. wide.

Branchlets puberulous and spreading-pilose; leaf blades puberulous and pilose along midrib above.....14. *H. eleutherostylum*.

Branchlets glabrous; leaf blades glabrous above or sometimes sparsely incurved-puberulous along midrib.

Leaf blades subentire or obscurely repand-crenate; fruiting calyx tube depressed-turbinate, the pediform base short.

10. *H. integrifolium*.

Leaf blades distinctly crenate-serrate; fruiting calyx tube turbinate, or sometimes depressed-turbinate, the pediform base distinct, sometimes as long as the body.

Peduncles incurved-puberulous; leaf blades incurved-puberulous or strigose along midrib beneath, not barbellate in the axils of the veins.....11. *H. pittieri*.

Peduncles glabrous; leaf blades glabrous along midrib beneath, sometimes barbellate in the axils.

Leaf blades glabrous beneath; inflorescence paniculate; calyx segments ovate-lanceolate.....9. *H. racemosum*.

Leaf blades barbellate in the axils of the veins beneath; inflorescence simply racemose; calyx segments usually lanceolate.....9a. *H. racemosum barbellatum*.

DESCRIPTION OF SPECIES.

1. *Homalium densiflorum* Spruce; Benth. Journ. Linn. Soc. Bot. 4: 36. 1860.

Older branches gray, glabrous; younger branches fuscous gray, lenticellate, sparsely and finely incurved-puberulous or glabrous; leaf blades 7 to 10 cm. long, 3.5 to 4 cm. wide, oval or ovate-oval to elliptic-obovate, obtuse or short-pointed and acute at tip, rounded to acutely cuneate at base, crenate-dentate with 9 to 15 pairs of obtuse teeth, subcoriaceous, in age sparsely incurved-puberulous along costa above or glabrous, shining, beneath glabrous or barbellate in the axils, somewhat reticulate-veined, with 6 to 8 pairs of lateral veins; petioles 6 to 7 mm. long, sparsely incurved-puberulous or pilose, at least above; peduncles axillary and terminal, solitary or in pairs, 1 to 2.3 cm. long, densely griseous-puberulous with very short spreading hairs or subglabrous; inflorescences spicate or racemo-paniculate, slender, 3.5 to 5.5 cm. long, their lower branches 1 to 1.5 cm. long and many-flowered, or suppressed, the upper flowers solitary and crowded; pedicels 0.5 mm. long or less; fruiting calyx tube turbinate, rounded at base, griseous-puberulous; calyx segments 5 or 6, triangular to linear-lanceolate, obtusish or acute, 0.8 to 1.2 mm. long, 0.6 to 0.7 mm. wide; fruiting corolla 7 to 8 mm. wide; petals ovate, obtusish, griseous-puberulous, 1.8 to 2.4 mm. long, 1.3 to 1.8 mm. wide; stamens in fascicles of 3 or 4, the filaments glabrous, equaling or slightly exceeding the petals; glands oblate, tomentose-pilosulous; styles 3, glabrous or pilose at base, united at base into a glabrous or pilose column nearly or quite as long as their free portions; ovary conic or depressed-conic, griseous-villous.

TYPE LOCALITY: Vicinity of Santarem, Pará, Brazil.

SPECIMENS EXAMINED:

BRAZIL: Vicinity of Santarem, Pará, January, 1850, *Spruce* (type collection; G).

Without definite locality, *Burchell* 7787 (G).

This species is readily distinguishable by its small sessile flowers and its very small calyx segments.

2. *Homalium guianense* (Aubl.) Warb. in Engl. & Prantl, Pflanzenfam. 3^{ae}: 36. 1893.

Racoubea guianensis Aubl. Pl. Guian. 1: 590. pl. 236. 1775.

Homalium spicatum Lam. Encycl. 1: 32. 1783.

Homalium racoubea Swartz, Prodr. Veg. Ind. Occ. 86. 1788.

Older branches glabrous or sparsely puberulous, the bark grayish brown; young branchlets incurved-puberulous and sparsely pilose; leaf blades 6.5 to 13.3 cm. long, 3.5 to 6.8 cm. wide, obovate-oval to elliptic or oval, obtuse or short-pointed but the apex blunt, cuneate to rounded at base, repand-crenate with 11 to 20 blunt teeth, pergamentaceous in age, above very sparsely puberulous, more densely so along the midrib, glabrate in age, beneath along costa and sometimes along the 5 to 11 pairs of lateral veins sparsely incurved-puberulous or pubescent, in age nearly or quite glabrous, sometimes barbellate in the axils of the veins; petioles 3 to 7 mm. long, incurved-puberulous or incurved-pubescent; peduncles axillary and terminal, incurved-puberulous, 2.8 to 5 cm. long; inflorescences spikelike and simple, or sometimes conic-paniculate, loosely flowered, 8 to 17 cm. long; lower branches of the inflorescence (peduncles of the second order) 0.5 to 4 cm. long; ultimate pedicels 1 mm. long or less; fruiting calyx tube depressed-turbinate, 5 or 6-sulcate, not contracted into a pediform base, griseous-puberulous; calyx segments triangular-lanceolate or narrowly lanceolate, acutish or acute, 1.2 to 2.3 mm. long, 0.6 to 1.2 mm. wide; corolla 9 to 12 mm. wide; petals deltoid-ovate, griseous-puberulous, in flower 2.5 mm. long, 2 to 2.5 mm. wide, in fruit 3 to 3.4 mm. long, 2.5 mm. wide; glands transversely oval-oblong or lunate-oblong, tomentose-puberulous; stamens in fascicles of 2 to 4, exceeding the petals, their filaments glabrous; styles 3 or "4", united at the base into a short column, glabrous or pilose at base; ovary depressed-conic, griseous-villous.

TYPE LOCALITY: "Sur l'habitation de Madame Gourde, dans le Comté de Gêne," French Guiana.

ILLUSTRATIONS: Aubl. Pl. Guian. pl. 236; Lam. Tabl. Encycl. pl. 483, f. 1; Mart. Fl. Bras. 13¹: pl. 101, f. II.

SPECIMENS EXAMINED:

BRITISH GUIANA: *Schomburgk* I. 225 (N). Upper Demerara River, September, 1887, *Jenman* 4022 (N).

SURINAM: Without definite locality, *ex herb.* *Miquel* (G).

BRAZIL: *Burchell* 9685 (G, N).

This species is reported by Bentham and Eichler from the three Guianas and from the provinces Amazonas, Pará, and Goyaz, Brazil. According to H. L. Gerth van Wijk's Dictionary of Plant Names, the species bears the following vernacular names: "bita hoedoe" (Surinam), "acomas à épis," "acomas en épis," "mavavé," "mavévé," "racoube de la Guiane," and "ahriger akomasbaum." *Jenman's* label bears the name "conageddyballi."

Aublet says of his *Racoubea guianensis*: "On emploie la racine de cet arbrisseau en tisane pour guérir les gonorrhées. * * * Les Créoles appellent cet arbrisseau *mavévé*, nom qu'ils donnent à plusieurs plantes dont ils font usage pour la cure de différentes maladies."

8. *Homalium nicaraguense* Blake, sp. nov.

Tree of medium size; branchlets fuscous gray, lenticellate, finely incurved-puberulous and sparsely pilose; leaf blades 14.5 to 17.5 cm. long, 5.3 to 6.5 cm. wide, elliptic-oblong or obovate-oblong, short-acuminate, at base rounded or cuneate-rounded, crenate-serrate, thin-pergamentaceous, feather-veined (lateral veins 7 to 9 pairs) and somewhat prominulous-reticulate, above sparsely incurved-puberulous and sometimes very sparsely pilose on costa, otherwise glabrous, beneath equally green, spreading-pilose on costa, especially below the middle, otherwise glabrous, not barbellate in the axils of the veins; petioles incurved-puberulous and sparsely pilose, 4 to 6 mm. long; inflorescences axillary, with one or two branches at base, these 1 to 4 cm. long, otherwise simply spicate-racemose; peduncle (1 to 4.5 cm. long) and axis (16 to 22 cm. long) griseous-puberulous with curved hairs; pedicels 0.5 mm. long or less; fruiting calyx tube turbinate, obtuse, not contracted into a pediform base, griseous-puberulous, sulcate; calyx segments 6, lanceo-

late, acute, griseous-puberulous, 1.8 to 2.7 mm. long, 1 mm. wide; petals ovate or rhombic-ovate, obtuse, griseous-puberulous, 2.5 to 2.8 mm. long, 1.5 to 2 mm. wide; stamens in fascicles of 3 or 4, equaling the petals, the filaments glabrous; ovary short-conic, sparsely pilose; styles 3, long, united into a glabrous column nearly as long as ovary.

Type in the U. S. National Herbarium, no. 1,010,053, collected at "B. J. Camp," vicinity of San Juan del Norte (Greytown), Nicaragua, February 18, 1896, by C. L. Smith (no. 3).

This species is closely related to *H. guianense* (Aubl.) Warb., but may be distinguished by its much larger leaves which are spreading-pilose on the costa beneath, its sparsely pilose ovary, longer and glabrous style column, and longer styles.

4. *Homalium puberulum* Klotzsch; Eichl. in Mart. Fl. Bras. 13¹: 507. 1871.

Older branches grayish fuscous, at length glabrate; branchlets of the year densely griseous-puberulous and short-pilose; leaf blades 5.3 to 10 cm. long, 3.2 to 5 cm. wide, elliptic, oblong-elliptic, or obovate-elliptic, obtuse or short-pointed with blunt tip, cuneate to rounded at base, crenate with 10 to 22 blunt gland-tipped teeth on each side, pergamentaceous, above dull green, rather sparsely puberulous, densely so along midrib, with incurved hairs, beneath densely griseous-puberulous with incurved hairs, barbellate in the axils of the veins; petioles densely griseous-puberulous and short-villous, 7 to 9 mm. long; peduncles short-villous and griseous-puberulous, axillary and subterminal, 1.8 to 2.5 cm. long; racemes simple, spikelike, loosely flowered, the rachis 4 to 5.5 cm. long; lower pedicels 0.8 mm. long, the upper obsolete; corolla 11 mm. wide in fruit; fruiting calyx tube depressed-turbinate, without pediform base, 7 or 8-sulcate, puberulous like both sides of the limb; calyx segments 7 or 8, ovate or lance-ovate, acute, 2 to 2.5 mm. long, 0.7 to 1.2 mm. wide; petals 7 or 8, ovate or broadly ovate, 3.2 to 4 mm. long, 2 to 2.5 mm. wide; stamens in fascicles of 3 or 4, the filaments slightly hairy at base, shorter than the petals; glands oblate, puberulous; styles 3, distinct, glabrous; ovary depressed-conic, densely puberulous and short-villous.

TYPE LOCALITY: Banks of the River Sururu, British Guiana. Type collected by Richard Schomburgk (no. 1463).

SPECIMEN EXAMINED:

BRAZIL: Without locality, *Burchell* 8203 (N).

From *H. mollicellum*, which it most resembles, this species is distinguished by its subsessile flowers, smaller fascicles of stamens, and more depressed calyx tube.

Although the type number of this species has not been available for examination, the specimens of *Burchell* 8203 in the National Herbarium agree so well with the description as to leave no doubt of their identity. The type number was referred by Bentham in his revision to *H. racoubea* (*H. guianense*), although that was described by him as possessing glabrous leaves. It is possible that the two species were distributed by Schomburgk under his number 1463.

5. *Homalium mollicellum* Blake, sp. nov.

Older branchlets glabrate, lenticellate, grayish-barked; branchlets of the year brownish gray, puberulous with short spreading hairs, some longer spreading hairs intermixed; leaf blades 5.5 to 9.5 cm. long, 3.2 to 3.8 cm. wide, elliptic or oblong-elliptic, short-pointed with blunt or emarginulate tip, rounded at base, shallowly repand-crenate with 11 to 16 blunt teeth on each side, chartaceous-pergamentaceous, with 9 to 12 pairs of lateral veins, above pale green, finely puberulous, glabrescent, beneath densely and softly cinerascens-pilosulous with spreading hairs; petioles tomentose-puberulous and villous, 5 to 8 mm. long; peduncles axillary and subterminal, 2.5 to 3.8 cm. long; racemes nearly simple, puberulous and short-villous, rather loosely flowered, the rachis 7.3 to 9.5 cm. long; lower branches of the raceme (peduncles of the second order) 2 or 3-flowered, 2 to 8 mm. long; pedicels 0.8 to 2 mm. long; fruiting calyx tube turbinate, rounded at base, 6 or 7-sulcate, densely and canescently tomentose-puberulous like both faces of the limb; calyx segments 6 or 7, ovate,

obtusish, 2.8 to 3.5 mm. long, 1.3 mm. wide; corolla in fruit 12 mm. wide; petals 6 or 7, ovate, obtusish, tomentose-puberulous and somewhat villous, 4 to 4.3 mm. long, 2 to 2.5 mm. wide; glands oval, tomentulose; stamens 4 to 7 in a fascicle, their filaments pilose to middle or higher; styles 3, distinct to base, hairy below; ovary conic from a broad base, densely spreading-villous.

Type in the U. S. National Herbarium, no. 399,375, collected at Coquillo, Guerrero, Mexico, May 3, 1903, by E. W. Nelson (no. 7034).

Easily distinguished from any other Mexican species by the softly pilosulous under leaf surface.

6. *Homalium pleiandrum* Blake, sp. nov.

Older branches grayish, the younger fuscous, glabrous; leaf blades 4.5 to 9 cm. long, 3.2 to 4.7 cm. wide, oval or ovate-oval, normally short-pointed and acute or acuminate at tip, rarely rounded or obtuse, rounded at base, coarsely repand-crenate with blunt teeth, subcoriaceous, above glabrous and shining, beneath barbellate in the axils of the veins, otherwise glabrous, reticulate-venulose, with 6 to 8 pairs of lateral veins; petioles glabrous, 4 to 5 mm. long; racemes axillary and subterminal, simple, loosely or somewhat densely flowered, on glabrous peduncles 1.5 to 2.5 cm. long, the rachis griseous-puberulous, 2.5 to 4.5 cm. long; pedicels 1 to 2 mm. long; calyx tube in flower slenderly turbinate, gradually narrowed into a pediform base, densely griseous-puberulous; calyx segments 6 or 7, elliptic-ovate or ovate, sparsely sordid-puberulous outside, densely so within, 3.2 to 3.8 mm. long, 1.5 to 2 mm. wide; corolla 8.5 to 12 mm. wide; petals 6 or 7, densely sordid-tomentellous on both sides, ovate or triangular-ovate, acutish, 4.5 to 4.8 mm. long, 2.5 to 2.8 mm. wide; stamens in fascicles of 4 to 8, the filaments glabrous, about equaling the petals; styles 2 to 4, united into a short column, glabrous or sparsely hairy at base; ovary depressed-conic, densely sordid-villous.

Type in the U. S. National Herbarium, no. 426,086, collected in pastures near Rio Piedras, Porto Rico, March 30, 1899, by Mr. and Mrs. A. A. Heller (no. 957).

OTHER SPECIMENS EXAMINED:

PORTO RICO: Rio Piedras, 1912, *Cougill* 281, 326 (Y). Red clay slopes, Mayaguez, April, 1913, *Britton & Hess* 2818 (N). Monte Alegriillo, June 20, 1913, *Stevens* 2341 (Y). Rio Icaco and vicinity, Sierra de Naguabo, 1914, *Shafer* 3492 (Y). Woods near Ceiba, Naguabo, April 25, 1885, *Sintenis* 1161 (G, N). In woods, Fajardo, April 16, 1885, *Sintenis* 957 (N). Forests, Sierra de Luquillo, May, 1883, *Eggers* 1238 (N). Mt. Jiminez, Sierra de Luquillo, July, 1885, *Sintenis* 1374 (N). Without definite locality, July 17, 1913, *Stevens* 8400 (Y). Duplicates of the type, *Heller* 957 (Y).

Homalium pleiandrum and the two following species, *H. leiogynum* and *H. hemisystylum*, all of which are confined to Porto Rico, and with the exception of *H. racemosum barbellatum* are the only species known from that island, are certainly very closely allied and may require union when more material has been accumulated, although as now represented in herbaria they seem distinct. As a group they differ from *H. racemosum* and its subspecies *barbellatum* in having their styles united into a short column at base. *H. leiogynum*, at present known only from a single collection, is unique, at least among the American species of the genus, in its ovary, which is absolutely glabrous or sometimes bears about half a dozen long hairs. It is not impossible, however, that it represents merely an extreme variation of *H. pleiandrum*. *H. pleiandrum* and *H. hemisystylum*, which agree in the possession of a densely villous ovary, differ from one another in number of stamens and in the shape of the calyx segments.

Urban¹ records *H. racemosum* from Porto Rico and gives its vernacular names as "coracolillo," "cerezo," and "tostado." The specimens cited, however, belong to *H. pleiandrum*, *H. leiogynum*, and *H. hemisystylum*.

¹ Symb. Antill. 4: 417. 1910.

7. *Homalium leiogynum* Blake, sp. nov.

Older branches clothed with a gray bark, the younger fuscous brown, glabrous; leaf blades 6 to 9.5 cm. long, 3 to 4 cm. wide, elliptic to oval, abruptly or gradually pointed, acute or acuminate at tip, rarely obtuse, at base rounded or rounded-cuncate, pergamentaceous, undulate-crenate, above glabrous, beneath sparsely barbellate in the axils or glabrous, reticulate-veined on both sides, with 6 or 7 pairs of lateral veins; petioles glabrous, 2 to 5 mm. long; peduncles glabrous, axillary and subterminal, 1.7 to 3.5 cm. long; racemes simple, the rachis sparsely puberulous, 1.2 to 4.5 cm. long, rather loosely flowered; pedicels 1.2 to 2.5 mm. long, incurved-puberulous; flowering calyx slenderly turbinate, narrowed into a pediform base, 5 to 7-sulcate, sparsely puberulous with subappressed hairs; calyx segments 5 to 7, lanceolate or ovate-lanceolate, narrowed to an obtuse tip, outside sparsely, within more densely puberulous with subappressed hairs and ciliolate, 3.2 to 4 mm. long, 1 to 1.2 mm. wide; corolla in flower 9.5 to 11.5 mm. wide; petals elliptic-ovate or lance-ovate, acutish or obtuse, puberulous and ciliolate, 4.4 to 4.6 mm. long, 1.3 to 2.2 mm. wide; stamens in fascicles of 4 to 6, the filaments glabrous, shorter than the petals; glands oblate, griseous-puberulous; styles 3 or 4, glabrous, united at base into a glabrous column; ovary conic, glabrous or with a very few long hairs.

Type in the U. S. National Herbarium, no. 462,116, collected in dry woods at Fajardo, Porto Rico, April 7, 1899, by Mr. and Mrs. A. A. Heller (no. 992). A specimen of the same collection is in the herbarium of the New York Botanical Garden.

Homalium leiogynum is readily distinguished by its glabrous ovary and 4 to 6-anded fascicles of stamens.

8. *Homalium hemisystylum* Blake, sp. nov.

Older branches grayish, glabrous, the younger fuscous or fuscous gray, glabrous or very finely puberulous; leaf blades 4.5 to 8.8 cm. long, 2.3 to 6 cm. wide, oval or elliptic, short-pointed, rounded at base, coarsely crenate, subcoriaceous, above glabrous, beneath barbellate in the axils or sometimes entirely glabrous; petioles glabrous, 2 to 7 mm. long; peduncles axillary and subterminal, sparsely incurved-puberulous or sometimes glabrate, 1.5 to 2.7 cm. long; racemes simple, loosely flowered, the axis sparsely incurved-puberulous, 1.5 to 4.5 cm. long; pedicels 1 to 2 mm. long; fruiting calyx tube slenderly turbinate, contracted gradually into a pediform base, finely incurved-puberulous; calyx segments 5 to 7, ovate or lance-ovate to lanceolate, narrowed to the acutish or obtuse tip, sparsely puberulous outside, densely griseous-puberulous within, 3.5 to 4 mm. long, 0.7 to 1.8 mm. wide; corolla 11 to 13 mm. wide; petals ovate or oblong-ovate, obtusish, rather densely griseous-puberulous on both sides, 4.5 to 5.5 mm. long, 1.8 to 2.5 mm. wide; stamens in fascicles of 3 or 4, or rarely 5, the filaments glabrous, shorter than the petals; styles 3 or 4, glabrous, united at base into a glabrous or sparsely pilose column about one-third their length; ovary conic, sordid-villous, usually glabrous or nearly so toward the margin of the broad base.

Type in the U. S. National Herbarium, no. 430,335, collected in the Sierra de Luquillo, Porto Rico, June 15, 1902, by Percy Wilson (no. 259).

OTHER SPECIMENS EXAMINED:

PORTO RICO: Wooded hill, Colonia San Miguel, near Fajardo, March, 1913, Britton & Shafer 1620 (N). Mountain forest, altitude 900 meters, Mt. Alegrillo, April, 1913, Britton, Stevens & Hess 2589 (N). Duplicates of the type, Wilson 259 (Y).

Most nearly related to *H. leiogynum*, but separable by the smaller fascicles of stamens and by the villous ovary.

9. *Homalium racemosum* Jacq. Enum. Pl. Carib. 24. 1760.

Older branches gray-barked, the younger fuscous, glabrous, marked with whitish lenticels; leaf blades 8 to 12.5 cm. long, 3.7 to 6 cm. wide, elliptic or ovate-elliptic, acuminate to a blunt tip, cuneate to rounded at base, pergamentaceous, crenate or

crenate-serrate with 10 to 22 pairs of blunt teeth, bearing 6 to 10 pairs of lateral veins with prominulous-reticulate secondary and tertiary veinlets, glabrous on both sides; petioles glabrous, 6 to 11 mm. long; peduncles axillary and terminal, glabrous, 2.6 to 4.2 cm. long; panicles conic or pyramidal, loosely flowered, 6.5 to 9 cm. long, the lowest branches 1.8 to 6.3 cm. long, the upper much shorter, puberulous with dull incurved or ascending hairs; pedicels 1 to 4 mm. long; fruiting calyx tube turbinate, contracted into a distinct but short pediform base, slightly sulcate, rather densely puberulous with dull incurved hairs; calyx segments 5 to 7, lanceolate to ovate-lanceolate, narrowed to an acutish tip, puberulous outside, more densely so inside, 3 to 3.5 mm. long, 1.2 to 1.6 mm. wide; corolla 8 to 12 mm. wide; petals 5 to 7, ovate, obtusish, griseous-puberulous on both sides, 3.5 to 5 mm. long, 2 to 2.8 mm. wide; stamens in fascicles of 3 or 4, the filaments glabrous or pilose at the base, shorter than the petals; styles 3, distinct, pilose at base; ovary conic, densely dull-pilose.

TYPE LOCALITY: Pastures, mouth of the River Capot, Martinique.

ILLUSTRATIONS: Jacq. Stirp. Amer. pl. 183, f. 72; Lam. Tabl. Encycl. pl. 483, f. 2; Lodd. Bot. Cab. pl. 261; Bot. Reg. pl. 519; Dict. Sci. Nat. pl. 244.

SPECIMENS EXAMINED:

ANTIGUA: *Duss* 42 (Y).

GUADELOUPE: *Duss* 2427 (Y). Abundant at altitudes up to 600 meters, flowering in May and June, *Duss* 2998 (N).

MARTINIQUE: *Sieber* 143 (N). Fort Vaillant, December, 1867, *Hahn* (G). In 1879, *Duss* 1806 (N).

A single flower of *Hahn's* plant from Martinique has a cluster of 7 filaments before one of the petals, but other fascicles in the same flower and on other flowers of the same specimen have the normal number of 3 or 4.

H. L. Gerth van Wijk, in his Dictionary of Plant Names, gives the following local names for this species: "acoma," "acomas á grappes," "acouma" (Martinique), "bois d'acouma," "bois incorruptible," "mavévé," and "traubiger akomasbaum."

9a. *Homalium racemosum barbellatum* Blake, subsp. nov.

?*Homalium obtusatum* Turcz. Bull. Soc. Nat. Moscou 31¹: 465. 1858.

Similar to the species; leaf blades barbellate in the axils of the veins beneath, sometimes smaller, thicker, and obtuse, 4.5 to 12.5 cm. long, 2.5 to 6 cm. wide; racemes simple or essentially so, the peduncles 4.2 cm. long or less, the rachis 1.5 to 8 cm. long; fruiting calyx often with conspicuous pediform base as long as the body; sepals usually lanceolate and acuminate, rarely ovate, 2.8 to 3.5 mm. long, 0.7 to 1.4 mm. wide; stamens, styles, and ovary as in the typical form.

Type in the U. S. National Herbarium, no. 656806, collected in Hope River Valley, Jamaica, September 27, 1907, by William Harris (no. 9981).

ILLUSTRATION: Swartz, Fl. Ind. Occ. 3: pl. 17 (as *H. racemosum*).

OTHER SPECIMENS EXAMINED:

CUBA: Near Monte Verde, January to July, 1859, *Wright* 1106 (G).

JAMAICA: *March* (G). Old England, altitude 1160 meters, 1896, *Harris* 6465 (Y).

Lacovia, 1907, *Britton* 1481 (Y). Hope River below August Town, 1907, *Britton* 1701 (Y). Duplicate of the type, *Harris* 9981 (Y).

SANTO DOMINGO: Barahona, 1900, *Fuertes* 35 (Y).

PORTO RICO: Maricao, 1913, *Hioram* (Y). Dry hills, Yauco, 1901, *Underwood & Griggs* 660 (N). Loma Icaco, Sierra de Naguabo, 1914, *Shafer* 3444 (Y).

10. *Homalium integrifolium* Britton, Bull. Torrey Club 37: 354. 1910.

Tree, about 15 meters high; older branchlets dull gray, the younger fuscous, dotted with whitish lenticels, glabrous; leaf blades 7 to 14.5 cm. long, 2.5 to 4.8 cm. wide, elliptic, oblong-elliptic, or ovate-elliptic, acuminate or acute, with obtuse tip, rounded and inequilateral at base, pergamentaceous, obscurely repand-crenate or crenate-serrate to subentire, glabrous on both sides except for occasional tufts of hairs in the

axils of the veins beneath, reticulate-venose, the lateral veins 6 to 9 pairs; petioles glabrous, 5 to 11 mm. long; racemes axillary, solitary, simple, loosely flowered, rather densely puberulous, the rachis 4.5 to 7 cm. long; peduncles very sparsely puberulous, 1.3 to 2.5 cm. long; pedicels 1 to 3.5 mm. long, incurved-puberulous; fruiting calyx tube strongly depressed-turbinate, contracted into a short pediform base, very obscurely sulcate, griseous-puberulous; calyx segments 6, lanceolate or ovate-lanceolate, narrowed to an obtusish tip, griseous-puberulous on both sides and ciliate, 1.5 to 3 mm. long, 0.6 to 1.3 mm. wide; corolla 7.5 to 11 mm. wide; petals 6, ovate or oval-ovate, narrowed to an obtusish tip, griseous-puberulous and somewhat ciliate, 2.5 to 3.8 mm. long, 1.5 to 2.7 mm. wide; stamens in fascicles of 3, the filaments glabrous, shorter than the petals; styles 3, distinct to base, pilose below; ovary depressed-conic, griseous-villous.

TYPE LOCALITY: Woodlands, eastern slopes of southern end of John Crow Mountains, Jamaica.

SPECIMENS EXAMINED:

JAMAICA: Woodlands, eastern slopes of southern end of John Crow Mountains, March 10, 1909, *Harris & Britton* 10741 (type collection; N, Y). Westphalia Estate, St. Andrews, 1885, *Hart* 636 (N).

The local name of this species is given on the label of the type collection as "white cogwood."

11. *Homalium pittieri* Blake, sp. nov.

Tree, 15 to 20 meters high; older branches grayish, lenticellate, the younger fuscous, glabrous; leaf blades 5.5 to 11.3 cm. long, 3 to 6 cm. wide, oval to ovate-oval, short-pointed, with obtuse or acutish tip, rounded or cuneate-rounded at base, crenate or undulate with 10 to 16 pairs of rounded depressed teeth, subcoriaceous, above deep green, somewhat shining, sparsely incurved-puberulous (chiefly along midrib) or glabrous, beneath duller or paler green, in youth sparsely strigillose and along midrib strigose, at maturity glabrous or sparsely strigillose on surface, along midrib sparsely incurved-puberulous or strigose, not barbellate in the axils, with 5 to 7 pairs of primary veins and prominulous-reticulate secondaries; petioles sparsely incurved-puberulous or strigillose, 6 to 14 mm. long; peduncles axillary and terminal, incurved-puberulous, 1.5 to 2.5 cm. long; inflorescences conic-cylindric, paniculate at base, simply racemose above, the rachis griseous-puberulous, 2.8 to 4.5 cm. long, the lowest branches few-flowered, about 5 mm. long; pedicels 1.5 to 2.5 mm. long; flowers whitish; calyx tube turbinate or in fruit depressed-turbinate, narrowed into a distinct pediform base, griseous-puberulous and obscurely sulcate; calyx segments 6 or 7, oblong to elliptic-oblong, obtuse, griseous-puberulous, 2 to 3 mm. long, 0.7 to 1.8 mm. wide; corolla 11 to 13 mm. wide; petals 6 or 7, oval or oval-ovate, obtuse, griseous-puberulous, 3.8 to 4.2 mm. long, 1.5 to 2.7 mm. wide; stamens in fascicles of 3, much shorter than petals, the filaments glabrous; glands oval, griseous-puberulous; ovary conic, griseous-villous; styles 3, distinct, glabrous or sparsely pubescent at base.

Type in the U. S. National Herbarium, no. 892,575, collected in light woods in the Lower Catuche wood above Caracas, Venezuela, altitude 1,000 to 1,200 meters, September, 1917, by H. Pittier (no. 7390).

OTHER SPECIMENS EXAMINED:

VENEZUELA: Parque de los Bárbaros, Los Teques, State of Miranda, October 19, 1917, *Pittier* 7515 (N).

Homalium pittieri is most closely related to *H. racemosum* Jacq., of the Lesser Antilles. From that species it differs in its incurved-puberulous peduncles, its leaves incurved-puberulous or strigose along the midrib beneath, its oblong or elliptic-oblong calyx segments, its depressed-turbinate fruiting calyx tube, and its less paniculate inflorescence. Eichler's record of *H. pedicellatum* from Caracas probably refers to this species.

12. *Homalium trichocladum* Blake, sp. nov.

Tree; older branchlets grayish, glabrous, the younger fuscous, densely incurved-puberulous and spreading-pilose with griseous hairs; leaf blades 4.2 to 9.5 cm. long, 2.8 to 4.7 cm. wide, elliptic, oblong-elliptic, or oval, obtuse or short-pointed, with obtuse tip, rarely rounded or subtruncate, at base cuneate, rounded, or subtruncate, crenate-serrate, with 12 to 19 pairs of blunt teeth, somewhat shining above, paler beneath, membranaceous-chartaceous, above puberulous along costa and slightly so along the lateral veins (these 7 or 8 pairs), on surface very sparsely pubescent or glabrous, beneath along veins spreading-pilosulous, barbellate in the axils, between the veins rather sparsely but softly incurved or ascending-pilosulous; petioles densely puberulous and pilose, 3 to 7 mm. long; peduncles axillary and subterminal, solitary, densely incurved-puberulous and spreading-pilose, 2.5 cm. long; racemes simple, loosely few-flowered, the rachis 1.5 to 3.5 cm. long; pedicels 1.7 to 2.5 mm. long; calyx tube turbinate in flower, contracted into a pediform base, griseous-puberulous; calyx segments 5, ovate or lance-ovate, narrowed to an obtusish tip, griseous-puberulous on both sides, 3.4 to 4 mm. long, 1.2 to 1.4 mm. wide; corolla white, 9 to 12 mm. wide in flower; petals 5, ovate or ovate-lanceolate, narrowed to an obtusish tip, griseous-puberulous on both sides, 4.3 to 5.3 mm. long, 1.5 to 2.3 mm. wide; stamens in fascicles of 3, the filaments glabrous, much shorter than the petals; styles 3, distinct to base, hairy below the middle; ovary short-conic, densely griseous-villous.

Type in the Gray Herbarium, collected in the Province of Barahona, Santo Domingo, June, 1911, by Padre Miguel Fuertes (no. 1098).

A sheet of sterile specimens in the herbarium of the New York Botanical Garden, collected by Britton and Wilson (no. 15443), in a river thicket, San Pedro and vicinity, Isle of Pines, agrees perfectly with the type in characters of foliage and pubescence, but, in the absence of flowers or fruit, it does not seem advisable to refer it definitely to this species.

13. *Homalium pedicellatum* Spruce; Benth. Journ. Linn. Soc. Bot. 4: 36. 1860.

Older branchlets fuscous brown, glabrate, the younger fuscous, griseous-puberulous and sparsely hispid-pilose with spreading hairs; leaf blades 7 to 11.8 cm. long, 2.5 to 4.7 cm. wide, oblong-elliptic or lance-elliptic, short-pointed, with an obtuse tip, rounded or sometimes cuneate at base, pergamentaceous, crenate-dentate with 10 to 18 pairs of obtuse teeth, very shiny above, incurved-puberulous along costa and sometimes very sparsely on surface, beneath dull, barbellate in the axils, sparsely pilose along midrib, with 5 to 9 pairs of lateral veins; petioles rather sparsely pilose and puberulous, 8 to 12 mm. long; racemes axillary, loosely flowered, simple, griseous-puberulous with incurved hairs and sparsely pilose, the peduncle 3 to 3.5 cm. long, the rachis 9 to 15 cm. long; pedicels 1 to 6 mm. long; fruiting calyx tube turbinate, contracted into an obscure and very short pediform base, griseous-puberulous and sparsely pilose; calyx segments lanceolate, narrowed to an acutish or obtusish tip, griseous-puberulous outside and ciliate, nearly glabrous within below middle, 3.2 to 3.5 mm. long, 0.8 to 1.1 mm. wide; corolla 1.2 to 1.4 cm. wide in fruit; petals ovate, narrowed from above the middle to an obtuse tip, griseous-puberulous on both sides and ciliate, 3.4 to 5 mm. long, 2.5 to 3.3 mm. wide; stamens in fascicles of 3 to 5, the filaments glabrous, shorter than petals; glands oval-oblong, griseous-puberulous; styles 3 or 4, glabrous or sparsely pilose at base, united into a sparsely pubescent column; ovary depressed-conic, densely griseous-villous.

TYPE LOCALITY: Southern shore of the Rio Negro, to its junction with the Solimoes, Brazil.

ILLUSTRATION: Mart. Fl. Bras. 13¹: pl. 101, f. I.

SPECIMENS EXAMINED:

BRAZIL: Southern shore of the Rio Negro, to its junction with the Solimoes, May, 1851, *Spruce* 1489 (type collection; G). Lazco, Rio Negro, Province of Amazonas, 1874, *Traill* 341 (G).

The species was originally described from "North Brazil and Venezuela, on the upper Rio Negro abundantly, Spruce, nos. 1489 and 3722." Of these numbers the former is here selected as the type. The species has also been recorded by Eichler from Caracas. The stamens, according to Bentham and as shown in Eichler's figure, are sometimes as many as five in a fascicle.

14. *Homalium eleutherostylum* Blake, sp. nov.

Branchlets fuscous, subterete, in youth finely puberulous with incurved hairs and rather densely pilose with dull wide-spreading hairs 0.5 to 0.8 mm. long, in age glabrescent; leaf blades 8.2 to 14.2 cm. long, 3.3 to 5.3 cm. wide, oblong-ovate or oblong-elliptic, short-acuminate, with obtuse tip, rounded at base, chartaceous, crenate with 15 to 18 pairs of very depressed rounded teeth, above more or less shining, along costa and the 7 to 10 pairs of veins finely incurved-puberulous, elsewhere very sparsely so or subglabrous, and along costa rather sparsely spreading-pilose, beneath dull, along costa (especially toward base) spreading-pilose, along the main nerves pilosulous, barbellate in the axils, elsewhere glabrous; petioles rather densely incurved-puberulous and spreading-pilose, 5 to 7 mm. long; peduncles axillary and terminal, solitary, pubescent like the stem, 3.5 cm. long; rachis incurved-puberulous and rather sparsely pilosulous, 7.5 to 9.7 cm. long; inflorescences simply racemose, cylindric, sparsely flowered; pedicels 1.5 to 5.5 mm. long; calyx tube in fruit turbinate-campanulate, without distinct pediform base, obscurely sulcate, rather sparsely griseous-puberulous with incurved hairs; calyx segments 5 or 6, lanceolate to lance-ovate, acuminate, griseous-puberulous, 2.5 to 3.5 mm. long, 1 to 1.3 mm. wide; corolla in fruit 11 to 12.5 mm. wide; petals triangular-ovate or rhombic-ovate, obtusish, griseous-puberulous, 3.8 to 4.3 mm. long, 3 to 3.3 mm. wide; stamens in fascicles of 3 or 4, glabrous, about equaling the petals; glands oval-oblong, griseous; styles 3, distinct, slightly pubescent at base, spreading in fruit; ovary depressed-conic, griseous-villous.

Type in the Gray Herbarium, collected near Barra, Province of Rio Negro, Brazil, July, 1851, by R. Spruce (no. 1662).

The type, distributed as "*Homalium pedicellatum* var.," is so similar in most respects to *H. pedicellatum* that I was for some time inclined to refer it to that species. It differs, however, not only in the free styles but in the denser pubescence of the branches and in the fact that the less shiny leaves are pilose above along the costa.

15. *Homalium hondurense* Donn. Smith, Bot. Gaz. 20: 4. 1895.

Tree, about 10 meters high; branchlets slender, gray, lenticellate; leaf blades 11.5 to 16.5 cm. long, 5.5 to 8.7 cm. wide, oval or broadly obovate-oval, short-pointed, with acutish tip, at base cuneate or rarely rounded-cuneate, thin, papery-membranaceous, coarsely undulate-crenate with about 12 pairs of rounded depressed teeth, above very sparsely strigillose along costa or essentially glabrous, beneath sparsely barbellate in the axils of the 7 to 9 pairs of prominulous-reticulate veins, otherwise glabrous; petioles essentially glabrous, 5 to 6 mm. long; peduncles axillary and terminal, solitary, glabrous, 3 to 6 cm. long; inflorescences conic-cylindric, paniculate to about the middle, then simply racemose; rachis puberulous with incurved-spreading hairs, 9 to 13.5 cm. long; lowest branches of panicle 1 to 2.5 cm. long, few-flowered; pedicels 1.5 to 7 mm. long, puberulous; fruiting calyx tube turbinate, finely incurved-puberulous, obscurely sulcate, gradually or abruptly contracted into a pediform base about half as long as the body; calyx segments 5 to 7, linear-oblong or narrowly elliptic-oblong, obtusish, griseous-puberulous, 2.2 to 3 mm. long, 0.5 to 0.8 mm. wide; corolla 11 to 13 mm. wide in fruit; petals 5 to 7, ovate, oval-ovate, or rhombic-ovate, obtuse, somewhat contracted below the middle, griseous-puberulous, 4.3 to 4.8 mm. long, 2 to 3 mm. wide; stamens in fascicles of 3, shorter than the petals, the filaments glabrous; glands oval-oblong, sulcate, griseous; styles 3, distinct, hairy at base; ovary conic, shortly griseous-villous.

TYPE LOCALITY: San Pedro Sula, Honduras.

SPECIMEN EXAMINED:

HONDURAS: Río Permejo near San Pedro Sula, Dept. Santa Bárbara, altitude 60 meters, September, 1887, *Thieme* (J. D. Smith, no. 5227; type, N).

Homalium hondurensis is most closely related to *H. columbianum*, but is easily distinguished by its pubescent leaves, larger petals, and glabrous filaments.

16. *Homalium columbianum* Blake, sp. nov.

Tree, 13 meters high, the trunk 30 cm. in diameter; older branchlets fuscous gray, the younger fuscous brown, marked with whitish lenticels, glabrous, slender; leaf blades 9.3 to 12.3 cm. long, 4.3 to 6 cm. wide, elliptic or oval, short-pointed, with obtuse tip, rounded or cuneate at base, comparatively thin, papery-membranaceous, undulate-crenate with about 12 pairs of very depressed teeth, glabrous and equally green on both sides, not barbellate in the axils, with 6 to 8 pairs of lateral veins; petioles glabrous, 7 to 10 mm. long; peduncles axillary and terminal, solitary or in pairs, glabrous, 2.5 to 6 cm. long; inflorescences slenderly conic-cylindric, paniculate; rachis finely incurved-puberulous, 12.5 to 17 cm. long; lower branches of inflorescence (peduncles of the second order) 9 to 15 mm. long, the upper gradually shorter, the lower few-flowered, the upper 1-flowered; pedicels puberulous, 1 to 2 mm. long; fruiting calyx tube turbinate, contracted gradually into a pediform base, griseous-puberulous; calyx segments 6 or 7, subulate-lanceolate or subulate, acuminate, puberulous on both sides and short-ciliate, 1.5 to 2.3 mm. long, 0.6 to 0.7 mm. wide; corolla 9 to 11 mm. wide in fruit, "white"; petals 6 or 7, ovate, narrowed from near the middle to an obtuse tip, griseous-puberulous on both sides and short-ciliate, 3.5 to 4.2 mm. long, 1.6 to 1.8 mm. wide; stamens 3 or 4 in a fascicle, the filaments pilose to middle, shorter than the petals; glands oval-oblong, griseous; styles 3, distinct, hairy at base; ovary conic, short-villous.

Type in the U. S. National Herbarium, no. 537,186, collected at San Martín de Loba, Lands of Loba, Department of Bolívar, Colombia, April to May, 1916, by H. M. Curran (no. 21).

Homalium columbianum is readily distinguished by its clusters of 3 or 4 stamens with filaments pilose to the middle. It is the first species of the genus to be reported from Colombia.

17. *Homalium trichostemon* Blake, Contr. Gray Herb. n. ser. 53: 60. 1918.

Tree, 12 meters high; older branchlets gray-barked, the younger fuscous, dotted with whitish lenticels, glabrous; leaf blades 5.7 to 11.5 cm. long, 2.8 to 4.5 cm. wide, elliptic to oval or obovate-oval, obtuse, short-pointed, or acuminate with blunt or retuse tip, cuneate or rounded at base, crenate-repand or crenate-serrate, sparsely pubescent at base of midrib above, barbellate in the axils of the veins beneath and sometimes obscurely puberulous along midrib and the 7 or 8 pairs of veins, otherwise glabrous, reticulate-venose; petioles 4 to 7 mm. long, sordid-pubescent above, glabrous beneath; racemes axillary and subterminal, simple, solitary or in pairs, the rachis loosely or somewhat densely flowered, puberulous or pilosulous, 6 to 7 cm. long; peduncles 1.5 to 3.5 cm. long, subglabrous or sparsely puberulous; pedicels 1 to 2 mm. long; fruiting calyx tube turbinate, without pediform base, 6 or 7-sulcate, griseous-puberulous; calyx segments 6 or 7, ovate-lanceolate, narrowed to an obtusish tip, griseous-puberulous and ciliate, 4 to 4.5 mm. long, 1.5 to 1.8 mm. wide; corolla 11 to 13 mm. wide; petals 6 or 7, ovate, obtuse, griseous-puberulous and ciliate, 4.8 to 5.5 mm. long, 2.5 to 2.8 mm. wide; glands griseous-puberulous; stamens in fascicles of 5 to 7, the filaments pilose to the middle, shorter than the petals; styles 3, distinct, short-pilose to the middle or higher; ovary depressed-conic, griseous-villous.

TYPE LOCALITY: Cafetal Montecristo, Department of Pochutla, Oaxaca, Mexico, at an altitude of 800 meters. Type in Gray Herbarium, collected April 11 to 12, 1917, by Conzatti, Reko & Makrinius (no. 3207).

OTHER SPECIMENS EXAMINED:

MICHOACÁN or GUERRERO: San Cristóbal, April 25, 1899, *Langlassé* 1011 (N).

OAXACA (?): Petlapa, October, 184-, *Galeotti* 7245 (N).

Langlassé describes the flowers of his plant as greenish. A plant collected between Juchitango and Ometepec, Guerrero, at an altitude of 90 to 305 meters, February 20, 1895, by E. W. Nelson (no. 2325), seems to differ from *H. trichostemon* as here described only in its glabrous filaments. Whether it represents a distinct species or a mere form of *H. trichostemon* must remain in doubt until more material of the group can be secured.

It is possible that the species above described is *Homalium senarium* Moc. & Sessé, the status of which is not yet definitely made out, but in view of the very abbreviated description of that species, too short to permit its definite identification, it does not seem advisable to adopt the latter name.

This species bears the name "palo de piedra" in Oaxaca.

18. *Homalium stenosepalum* Blake, sp. nov.

Large tree, 25 to 30 meters high; older branches grayish, dotted with raised lenticels, glabrous, the younger grayish fuscous or fuscous, dotted with whitish lenticels, glabrous or sometimes puberulous and short-villous; leaf blades 8 to 14 cm. long, 3.2 to 6 cm. wide, elliptic or oval, short-pointed or acuminate (the tip obtuse or sometimes acute), cuneate or rounded at base, thin-coriaceous or chartaceous-coriaceous, crenate with 13 to 21 pairs of blunt teeth, somewhat shining on both sides, above glabrous, beneath barbellate in the axils of the veins, otherwise glabrous or merely sparsely pubescent along the midrib, prominulous-reticulate, with 8 to 13 pairs of lateral veins; petioles glabrous or sparsely puberulous and pilose, 5 to 13 mm. long; peduncles axillary and subterminal, solitary or rarely in pairs, incurved-puberulous or subglabrous, 1 to 4.5 cm. long; panicles branched below, simply racemose above, the rachis griseous-puberulous with incurved hairs, 3.3 to 8.3 cm. long; lower branches of panicle mostly 1 to 2 cm. long; pedicels 1.5 to 5 mm. long; fruiting calyx turbinate, contracted into a pediform base, obscurely sulcate, griseous-puberulous; calyx segments 5 or 6, narrowly lanceolate or subulate-lanceolate, narrowed to an obtusish tip, griseous-puberulous, 4 to 5 mm. long, 1 to 1.3 mm. wide; corolla 1.4 to 1.7 cm. wide in fruit, "white"; petals 5 or 6, ovate, narrowed from above the middle to an obtusish tip, griseous-puberulous, 5.5 to 6.5 mm. long, 2.5 to 3 mm. wide; stamens in fascicles of 2 or 3, the filaments glabrous, much shorter than the petals; styles 3, distinct to base, pubescent at base or below the middle; ovary short-conic, short-villous.

Type in the U. S. National Herbarium, no. 676,938, collected along the Chagres River, below Gatún, Canal Zone, Panama, near sea level, February 17, 1911, by H. Pittier (no. 2804).

OTHER SPECIMENS EXAMINED:

PANAMA: Around Frijoles, Canal Zone, altitude 8 to 30 meters, February 8, 1911, *Pittier* 2693 (N). Without definite locality, Canal Zone, *Christopherson* 139 (N).

Very distinct in its large flowers and narrow sepals. The flowers are said to be ill-smelling.

19. *Homalium eurypetalum* Blake, sp. nov.

A tree, 10 meters high; older branchlets glabrous, grayish, the younger griseous-puberulous with incurved hairs, dull grayish brown; leaf blades normally 12.8 to 14 cm. long, 4.7 to 5 cm. wide, elliptic or obovate-elliptic, short-pointed, with obtuse tip, cuneate at base, crenate with rounded teeth, chartaceous, shining, above densely incurved-puberulous along midrib, elsewhere sparsely so or glabrous, beneath sparsely incurved-pubescent along midrib and veins (these about 11 pairs), barbellate in the axils of the veins; petioles densely incurved-puberulous and sparsely pilose, 8 to 10 mm. long; inflorescences axillary and subterminal, branched below,

simply racemose above, densely griseous-puberulous and sparsely short-pilose, 11.5 to 15 cm. long, on peduncles 3 to 4 cm. long; lowest branches of panicle 1 to 4.3 cm. long; pedicels 2 to 5 mm. long; fruiting calyx tube turbinate-campanulate, obscurely striate, somewhat abruptly contracted into a pediform base, griseous-puberulous; calyx segments 5 to 7, ovate or elliptic, obtuse, griseous-puberulous, 4 to 5 mm. long, 1.8 to 2.5 mm. wide; corolla 14 to 18 mm. wide in fruit; petals elliptic or ovate-elliptic, obtuse, griseous-puberulous, 6 to 7 mm. long, 2.5 to 4 mm. wide; stamens in fascicles of 3 or 4, the filaments glabrous or sparsely pubescent at extreme base, much shorter than the petals; styles 3, distinct, pilose at base; ovary depressed-conic, griseous-villous.

Type in the U. S. National Herbarium, no. 941,440, collected in the swamp of Sierpe, Pacific slope of Costa Rica, March, 1892, by H. Pittier (no. 6817).

The type collection of this species was referred by Captain Smith¹ to *H. hondurensis*, but comparison with the type of that species, now in the National Herbarium, shows the Costa Rican plant to differ specifically in its much larger flowers, broader perianth segments, depressed-conic ovary, and more pubescent leaves.

DOUBTFUL SPECIES.

HOMALIUM SENARIUM Moc. & Sessé; DC. Prodr. 2: 54. 1825.

"Leaves ovate, coarsely dentate; racemes axillary and terminal; flowers pedicellate; stamens in 6 hexandrous fascicles." (DC. loc. cit.)

"Leaves oval-oblong, sinuate-dentate, glabrous, short-petioled; flowers subsessile, 6 to 8-merous, densely tomentose; calyx segments oblong, narrower than the petals; stamens in fascicles of 5 to 6; styles 3 to 4, distinct.

"*Hab.* Mexico, *Jurgensen* (without any number in Herb. Hook.)." (Benth. Journ. Linn. Soc. Bot. 4: 36. 1860.)

The above translated descriptions represent all that is known of this plant, in addition to the figure (*pl.* 293) in the *Calques des Dessins* of Mociño and Sessé, which shows a plant with coarsely toothed leaves, truncate-rounded at base, and suborbicular petals. Under the circumstances it does not seem wise, in view of the very indefinite nature of the original description, to attempt its identification with either *H. trichostemon* or *H. mollicellum*, the only species now known with which it could be associated.

¹ Pittier, *Prim. Fl. Costar.* 2¹: 105. 1898.