STUDIES IN THE THEACEAE, XXII
SOME NEW SPECIES OF THEACEAE IN SOUTH AMERICA

CLARENCE E. KOBUSKI

Freziera retinervia Kobuski, sp. nov.

Arbor; ramis glabris subcostatis, ramulis teretibus glabris brunneis, gemmis terminalibus glabris. Folia coriacea, glabra, elliptica vel ovata, subinaequilateralia, apice late acuta, retusa, basi cuneata, 5–7 cm. longa et 1.5–2.5(–3) cm. lata, venis ca. 20 paribus, undique manifeste reticulatis, margine crenato-serrulatis, subrevolutis, juventute glandulo-denticulatis, petiolis 1–1.7 cm. longis. Flores axillares, ut videtur solitarii; pedicellis teretibus, glabris, 7–10 mm. longis, erectis vel recurvatis; bracteolis 2, glabris, suboppositis, basi calycis positis, late ovatis, ca. 1.5 mm. longis, 1–1.2 mm. latis, margine ciliatis; sepalis 5, imbricatis, glabris, lato-ovatis vel subrotundatis, 2–3 mm. longis et 2–3 mm. latis, crassis, margine ciliatis; petalis 5, ovatis 6 mm. longis, 3 mm. latis, apice acutis; staminodiis 6, disco affixis, ca. 2.25 mm. longis, filamentis subglobosis, ca. 0.75 mm. longis, antheris ca. 1.5 mm. longis; ovario glabro, ovoideo-conico, ca. 4 mm. longo, basi ca. 2 mm. diametro, triloculare, stigmate trilobulato. Fructus non visus.

COLOMBIA: Departamento Norté de Santander: Cordillera Oriental, región del Sarare: Alto de Santa Inés, bosques, alt. 2150–2250 m., *J. Cuatrecasas, R. E. Scultes & E. Smith 12425* (United States National Herbarium, TYPE; fragment, Arnold Arboretum), Oct. 19–23, 1941.

This species is distinctive because of the complete lack of pubescence even on the terminal buds, the sharply etched reticulation of the leaves, conspicuously so on both surfaces, and the very small flowers. It appears to resemble most closely Sandwith's species, *F. microphylla*. However, in the latter species a distinctive pubescence is found on the branchlets, leaves, pedicels, bracteoles, and calyx, the leaves measure only to 2.5 cm. in length with a petiole only 1 mm. long.

Ternstroemia cleistogama Kobuski, sp. nov.

Arbor omnino glabra, ca. 10 m. alta; ramulis verticillatis vel subverticillatis, griseis, teretibus. Folia coriacea, apice ramulorum congesta, obovata, 5–7 cm. longa, 2–3.5 cm. lata, apice obtuse acuta vel obtusa, basi cuneata, subtus leviter punctata, margine subintegra vel leviter glandulosa, costa supra canaliculata, subtus elevata, nervis undique indistinctis, petiolis 5–7 mm. longis. Flores solitarii, apice ramulorum positi, pedicellis 2.5–3 cm. longis, teretibus, tenuiter erectis vel suberectis; bracteolis 2, inaequalibus, orbicularibus vel semi-orbicularibus, 3.5 × 5 mm. et 3 × 3 mm., apice pedicelli positis; sepalis 5, imbricatis, subrotundatis, inaequalibus, exterioribus duobus ca. 6 mm. longis et 6.5 mm. latis,

interioribus tribus concavis, 7–8 mm. longis et latis; corolla cleistogama, globosa vel subglobosa, circiter 5–6 mm. diametro, basi pentagona; staminibus numerosus, 3- vel 4-seriatis, inaequalibus, 3–4 mm. longis, in cavo corollae confertis, filamentis connatis, 1.5–2 mm. longis, antheris oblongis 1.5–2 mm. longis; ovario subplano, ca. 3 mm. diametro, biloculato, loculis 2-ovulatis, stylo 2–2.5 mm. longo, stigmate peltato bi-crenato. Fructus non visi.

ECUADOR: Loja: between Tambo Cachiyacu, La Entrada, and Nudo de Sabanillas, alt. 2500–3500 m., *J. A. Steyermark 54421* (TYPE, Chicago Museum of Natural History; ISOTYPE, Arnold Arboretum), Oct. 7, 1943 (tree 10 m.; pedicel curving downward, pale green tinged with rose, the calyx greenish white).

This is the third cleistogamous species of *Ternstroemia* described from South America. The other two species are *T. globiflora* R. & P. from Peru and *T. congestiflora* T. & P. from Colombia. The more closely related is *T. congestiflora,* which can be separated from this species by the heavier coriaceous leaves with the veins clearly distinct on the lower surface and the thick short pedicels (3–4 mm. long).

Ternstroemia urophora Kobuski, sp. nov.

Arbor parva, ramulis glabris teretibus crassis, ca. 0.5 mm. diametro. Folia glabra, coriacea, apice congesta, oblongo-elliptica, 14–17 cm. longa, 5–5.5 cm. lata, apice abrupte acuminata, acumine tenui ca. 2 cm. longa, basi cuneata in petiolum crassum ca. 2 cm. longum, margine integerrima, plana vel leviter subrevoluta, costa supra canaliculata, subtus rotundato-carinata, venis 10–12 paribus, undique obscuris vel subobscuris. Flores axillares, solitarii, apice ut videtur congesti; pedicellis crassis, 5–7 mm. longis, glabris, subrecurvatis; bracteolis 2, persistentibus, oppositis, glabris, subaequalibus, ca. 4 mm. longis et 3 mm. latis, late ovatis, apice abrupte subcaudatis, costatis, margine eglandularibus; sepalis 5, imbricatis, glabris, subaequalibus, 5–5.5 mm. longis et ca. 6 mm. latis, late ovatis, apice abrupte leviterque acuminatis, margine membranaceis, integerrimis; petalis 5, late ovatis, apice caudatis, 5–6 mm. longis, basi 2–3 mm. connatis; staminibus 40 plus minusve, ut videtur quadriseriatis, longitudine usque ca. 4 mm. variabili, filamentis omnino connatis, glabris, antheris uniformibus plus minusve, ca. 2.5 mm. longis, apice longe caudatis; ovario glabro, late conico, basi ca. 3 mm. diametro, apice in stylum gradatim, 4-loculato, loculis uno-ovulatis, stylo glabro, ca. 3 mm. longo, stigmate punctiformi. Fructus ignotus.

BRAZIL: Amazonas: Manáus (Manaos), Rio Tarumá-mirí, matinha marginal d'uma campina arenosa; arvore pequem, flôr côr de rosa, *A. Ducke 1288* (TYPE, Arnold Arboretum; ISOTYPE, United States National Herbarium), July 17, 1943.

This species is distinctive because of its caudate or subcaudate parts. The leaves, bracteoles, petals, and anthers are of this form. The four-celled ovary with a single ovule in each cell and the punctate stigma are features of distinction.

In leaf-characters this species resembles *T. circumscissilis* Kob. However, in the latter species the leaf-surface is distinctly glandular-punctate, the ovary two-celled, and the stigma peltate.

ARNOLD ARBORETUM,
HARVARD UNIVERSITY.