

A NEW CROTON FROM NEW SOUTH WALES.

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[Read before the Royal Society of N. S. Wales, December 2, 1914.]

CROTON MAIDENI, sp. nov.

Systematic.—A bushy shrub from seven to nine feet high; diameter of largest known tree one and three-quarters to two inches, inflorescence and underside of the leaves silvery-white, with close stellate tomentum; terminal branchlets mostly quadchotomous, only occasionally trichotomous. Leaves alternate, only in a few instances opposite, small, narrow, lanceolate, one to one and a half, rarely two inches long, one-eighth to one-quarter of an inch wide, on a petiole mostly under two, rarely three lines long, occasionally with a few distant teeth, mostly entire, obtusely acuminate, shortly rounded and very slightly peltate; midrib on underside very prominent, veins quite obscured; glands at the top of the petiole very small; underside of leaf with a close silvery stellate tomentum, upper surface green with sparsely scattered, minute stellate hairs.

Racemes one to two inches long, flowers loosely disposed or distant, upper ones all males with one, two or three females at the base. Male calyx segments one line long, valvate, petals about the same length but half as broad; ciliate. Female calyx segments a little longer. Stamens nine to eleven. Styles three, divided into three or four branches of irregular length, and some bifurcated near the top. Capsule trilocular, rather larger than broad, about three lines long, with scattered stellate hairs. Seeds smooth or slightly muricate.

[Fruticosus 8' - 12' saltem, tenui, cortice laevi, aromaticissimo. Folia, lanceolata, longitudine 2 - 5 cm., latitudine 5 - 10 mm., varientia aut subcoriacea aut coriacea, supra glabrata pauca stellaripiti, ferrugina, subtus stellari-tomentella argentea; glandulae 2 basales sessiles minutissimae. Nerviae invisibilis. Ramuli tenues et petioli et rachis inflorescentiae, pilis stellaris. Calcyces, fem. accrescentes 1 - 3 in basi rachium, 5 lobae glabrae; ovarii parce stellari-pili; stylis 3 partitis lacinus gracilibus; capsulae 8 mm. longae 6 - 7 mm. latae tridymae, stellato-puberulae.]

Habitat.—The highest point between Angledool and Queensland border, known as "Guthrie's Mountain" (now Read's Mine). About twenty feet high above the black soil plains.

This Croton has quite a different facies from that of any described in the section given by Benthham in his "Flora Australiensis," VI, p. 124,—“leaves densely clothed on the underside with stellate silvery tomentosum.”

It differs amongst other points more especially from *C. Shultzii* and *C. insularis*, in its dwarf habit, stigmatic divisions and in its leaves. From *C. opponens* in the dispositions of its leaves, and from *C. phebaliioides* in that it does not resemble a *Phebalium*. The leaves, bark and timber are quite distinct from that species, which now includes *C. stigmatosus*. It is a shrub and with whip-stick stem, as against the tree growth of that species. In *C. phebaliioides* the basal glands of the leaf blade are much more prominent than in this species, which may be described as quite rudimentary, and only conspicuous with a pocket lens.

The leaf veins are quite obscured in the leaf texture and not penniveined as obtains in the two latter species, nor are the leaves membraneous. Systematically it might be placed between *C. phebaliioides* and *C. opponens*.

A marked specific character is that the terminal branchlets are arranged quadrotomously, and occasionally trichotomously.

Technology.—(1) *Timber.* This is a very hard, close grained, even textured timber, of a very light colour, with a small dark or black ebony centre, otherwise it resembles “English Box,” *Buxus sempervirens*. It is a much harder wood than any Australian described Croton.

(2) *Bark.* This is the most aromatic portion of the tree, and “fresh specimens of wood with the bark on, when taken into a room, give a strong aromatic atmosphere, and odour approaching that of ‘chloroform,’ in fact almost overpowering if left in the room too long.”—A. Paddison. To me it is a far more pleasant odour than chloroform.

It is quite a distinct aroma from that of *C. phebaloides*. Mueller states, (Frag. iv, 14) that *C. phebaloides* exudes a resin, but diligent search amongst the known trees failed to discover any such substance in this tree.

In an aromatic classification of the whole genus, it might be placed with such exotic species as *C. aromaticus*, Linn., East Indies; *C. suaveolens*, Tarr., Mexico; *C. birmanicus*, Muell. Aug., Burma; three species containing an essential oil, out of about 450 species known for the Genus.

(3) *Leaves.*—These are also aromatic, and yield an essential oil with a pleasant odour. Mueller, (Fragmenta, iv, p. 140) records that *C. stigmatosus* now *C. phebaloides*, contains a pleasant aroma in its leaves, so that there are two species of this genus now in Australia possessing an essential oil in their leaves. Mr. H. G. Smith, who investigated the oil of this species, states:—The amount of leaves with branchlets was only 21 lbs., from which but three grams of oil were obtained, equal to 0.03 per cent. The crude oil was of an amber colour, had a terpene odour, with an indefinite secondary one. Cineol was not present.

The quantity of oil available was altogether too small to allow of a complete analysis but the following results were obtained with it :—

Specific gravity at 15° C. = 0·9291.

Rotation $a_D = -15^\circ$

Refractive index at 24° = 1·4944

Insoluble in 10 volumes 80 per cent. alcohol, but soluble in 90 per cent. alcohol.

The absence of cineol, the slight solubility in alcohol, the high rotation and refractive index, suggest that the oil consists largely of non-oxygen bearing compounds, such as the terpenes and sesquiterpenes.

||| Mr. A. Paddison, who discovered this tree and had it under observation for many years, states:—"This is a very rare tree in the north-west of the State, or at least Angledool, and so far only seven trees have been seen. It is found growing in 'Desert' sandstone country in circular depressions or 'blows,' (as they are known locally) on the tops or sides of our little ridges, carved out apparently by an explosion of gas in the sandstone. In fact, these are the only places in which I have found the tree growing. So far, I have not been able to obtain the aboriginal name of the tree."

I am indebted to Professor Ewart for specimens of Mueller's original *C. stigmatosus*.

EXPLANATION OF PLATE XII.

1. Twig, showing inflorescence.
 2. Individual female (enlarged).
 3. Terminal branchlets with capsules.
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Baker, Richard T. 1914. "A new Croton from New South Wales." *Journal and proceedings of the Royal Society of New South Wales* 48, 444–447.

<https://doi.org/10.5962/p.359665>.

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