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Epacris heteronema, Labill., and *E. dubia*, Lindl.

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ROYAL BOTANIC GARDENS, KEW.

BULLETIN

OF

MISCELLANEOUS INFORMATION.

No. 7.]

[1910.

XXXI.—EPACRIS HETERONEMA, Labill., AND
E. DUBIA, Lindl.

(With Plates.)

O. STAPP.

In *Flora Australiensis* (vol. iv., p. 239) the area of *Epacris heteronema*, Labill., is described as including Tasmania and parts of Victoria and New South Wales. The Tasmanian specimens, with one exception, are referred to typical *E. heteronema*, the remainder to a "var. ? *planifolia*," whilst, in a note, *E. dubia*, Lindl., is said to be possibly a garden variety of *E. heteronema*. With respect to this *E. dubia*, certain questions have been referred to Kew by Mr. J. H. Maiden, Director of the Botanic Gardens, Sydney, New South Wales, with a view to finding out what Lindley's plant might be. They were occasioned by a note in the *Kew Bulletin*, 1909, p. 228, in which an *Epacris* that had flowered at Kew was with some reserve referred to *E. dubia*, as var. *subreflexa*. It was clear from the note that in *E. heteronema*, in the sense of the *Flora Australiensis*, we had to deal with an ill-defined type which required further and closer examination. This examination has been carried out and the results are embodied in the subjoined remarks.

Epacris heteronema was discovered by Labillardière in Recherche Bay in the extreme south of Tasmania, and described and very well figured in his *Novae Hollandiae plantarum specimen* (vol. i., p. 42, tab. 56) in 1804. One of Labillardière's original specimens is at Kew, and there can be no doubt as to the plant which he meant. Mr. Maiden collected it again in the "locus classicus" two years ago. The other localities of *E. heteronema*, Labill., represented at Kew, are :—South Port, about 10 miles north of Recherche Bay, Mt. La Perouse, north-west of Recherche Bay, Port Davey, on the south-west coast of Tasmania, and "high healthy plains between the Franklin and Gordon Rivers near Macquarie Harbour," about 50 miles north of Port Davey.

In 1833 an "*Epacris heteronema*" was figured in the *Botanical Magazine* (tab. 2357), from a specimen grown at Kew, and it was stated that the plant had been introduced by A. Cunningham from the Blue Mountains (New South Wales). This "*E. heteronema*" of the *Botanical Magazine* was soon afterwards recognised by A. P. De Candolle as a form distinct from the Tasmanian plant and

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M. Smith, del.

4320. W. 92. 428. 3. 15. 1910.

Wells & Graham, Lith. London.

described in his *Prodromus* (vol. vii., p. 762) as var. " β ? *subreflexa*" with the additional observation "An species propria." In the *Flora Australiensis* De Candolle's name does not appear; but the Botanical Magazine figure is quoted under "var. ? *planifolia*" of *E. heteronema*. The specimen from which this figure was drawn is preserved, and it is quite clear that it agrees absolutely with the plant referred to *Epacris dubia*, as var. *subreflexa*, N.E. Br., in the *Kew Bulletin* for 1909. But from a comparison of the flower it is equally evident, first that the cultivated plant is specifically identical with the specimen collected by A. Cunningham in New South Wales, and labelled "a tall twiggy shrub in elevated swampy lands B. Mountains, W. Port Jackson and Country N. from Bathurst, O. Nov. 1822"; and secondly, that the New South Wales plant is distinct from that of Southern Tasmania, as was already suggested by A. P. De Candolle. In fact, Benthham himself at one time held that view and actually gave the cultivated plant a new name; for there is in his herbarium a specimen of the Botanical Magazine plant from "Hort. Soc. Hort. Lond., 1840," named "*Epacris heteronema*," to which he added "Hook. non Labill.," and further "*Epacris breviflora*, Benth., Botanist, t. —," a name which, however, was never published. It is true the cultivated specimens differ somewhat from those of the wild plant in habit; but the differences are almost entirely due to the lengthening of the internodes and the consequently looser disposition of the leaves, a change from the wild type which might be expected under cultivation. Cunningham's plant, for which Benthham's very appropriate name *E. breviflora* may be retained, has since been repeatedly collected, and of the Kew specimens the following are referable to it:—New South Wales, New England, C. Moore; Muniong Range, Mt. Kosciusko, Maiden and Forsyth; Victoria, Australian Alps, at the sources of the Mitta Mitta River, at 1300 m., in the Buffalo Range and on Mt. Aberdeen, three gatherings all by F. von Mueller. This accounts for all the localities quoted in *Flora Australiensis* under *E. heteronema* var. *planifolia*, with the exception of Mount Baw Baw, Victoria, and South Port, Tasmania. The specimens from these two localities are distinct from each other, nor are they referable to *E. heteronema* or *E. breviflora* or, in fact, to any of the other species so far described; they have therefore to be treated as new. Their characters may be gathered from the descriptions given below. As to their affinities it is difficult to pronounce without overhauling the whole genus; but it may be said that at the present they will best be placed near *E. myrtifolia* and *E. exserta*.

The cultivated specimens of *E. breviflora* have, as already stated, been connected with Lindley's *E. dubia*. This was described and figured in the Botanical Register, 1846, tab. 33, from a plant sent to Lindley by a Mr. Jackson, a nurseryman in Kingston. Nothing more is known about it, and there is no specimen of it extant either at Kew, the British Museum, or in Lindley's herbarium at the University of Cambridge. Lindley says he took it at first for *E. heteronema*, but afterwards found it to differ in the leaves. He might have added, that it differed still more in the flower which he figured in detail. But in spite of the description and the accompanying plate the species is dubious, and will for ever remain so

unless the original specimen should be found. This uncertainty is due entirely to the discrepancies between the description which is too short to stand by itself and the figure which, if Lindley's very precise statements are worth anything, shows a great lack of accuracy. Lindley insists upon the leaves being terminated by a "blunt callus" (*callo obtuso apiculatis*) and being "not merely slightly three-ribbed at the base, but plainly so through their whole length," while the artist represented them as very acute or even produced into a fine pungent mucro and without any indication of ribs. Then in the description the anthers are said to be "subinclusae," but in figure 1 representing a corolla cut open, the tips of the anthers, which are drawn rather clumsily, reach just up to the sinuses between the lobes, and in the principal figure they are shown as red dots more or less exserted from the corolla tube. The description of the leaves up to a certain point suggests *E. exserta*, but as the leaves are said to be obsoletely denticulate and the corolla lobes acute, that species hardly comes into consideration. One point, however, which is clearly brought out in figure 1, is of importance, namely the length of the style which at least equals the corolla tube. This character alone excludes *E. heteronema* and *E. parviflora*; it would not, however, militate against a close connection with *E. exserta*. It may be added that R. Brown's specimen of *E. exserta* at Kew, from Port Dalrymple, and also some of those in the herbarium of the British Museum, are written up "*Epacris dubia*"; but the writing is R. Brown's and much older than Lindley's description of *E. dubia*. Possibly it was never intended for a specific name and stood merely for "a dubious species."

E. heteronema of the *Flora Australiensis* is therefore a composite species, made up of four distinct elements, none of which can be identified with *E. dubia* of Lindley, a veritable "species dubia." To bring out the more salient distinctive characters of the four species in question they have been set out in the form of a key.

Style as short as or shorter than the ovary, not exserted from the mouth of the corolla; filaments much shorter than the anthers, these subsessile in the throat; leaf margins minutely serrulate; bracts and sepals ciliate.

Corolla tube cylindric, at least as long as the lobes, 4 mm. long; stigma below the mouth of the corolla 1. *E. heteronema*.

Corolla tube very short, funnel-shaped, scarcely half as long as the lobes, 1.5 mm. long; stigma at the level of the mouth of the corolla 2. *E. breviflora*.

Style several times longer than the ovary, distinctly exserted from the mouth of the funnel-shaped corolla tube, which is as long as or slightly longer than the lobes.

Filaments shorter than the anthers, these subsessile in the mouth of the narrowly funnel-shaped corolla tube; leaf margins minutely serrulate; bracts and sepals ciliate.

3. *E. bawbawiensis*.

Filaments longer than the anthers, these completely exserted from the mouth of the widely funnel-shaped corolla tube; leaf margins smooth, rounded; bracts and sepals ciliate.

4. *E. Stuartii*.

E. heteronema, *Labill.*, Nov. Holl. Pl. i. 42, tab. 56. *Frutex* multiramulus, ramis pubescentibus vetustis cortice cinereo vel nigrescente tectis. *Folia* creberrima, subpetiolata, ovata, basi rotundata, acuminata, aceroso-mucronata, 5–9 mm. longa, 2·5–4 mm. lata, crasse coriacea, margine sub lente minute serrulata, supra ad basin plerumque parce puberula, nervis subtus tenuibus saepe obscuris subparallelis. *Flores* plerumque versus apices ramulorum aggregati, hincinde secundum ramulos dissiti. *Bracteae* ovatae vel (superiores) lanceolatae, acutae, margine minute ciliolatae, interdum in dorso pubescentes. *Sepala* bracteis praecedentibus simillima, 4–5 mm. longa. *Corollae* tubus cylindricus, 4–5 mm. longus; lobi ovati, subobtusius, quam tubus paulo breviores. *Antherae* filamentis brevissimis sub fauce corollae ortis insidentes, apicibus ex ore vix exsertis. *Stylus* 1·5–2 mm. longus; stigmatibus inclusis. R. Br. Prodr. 551; DC. Prodr. vii. 762; Hook. Fl. Tasman. i. 259; Benth. Fl. Austr. iv. 239, excl. var.

TASMANIA. Kent Co.: Recherche Bay, *Labillardière*! *Maiden*! base of Mt. La Pérouse, *F. v. Mueller*! South Port, *Stuart*! Port Davey, *Milligan*, *Herb. Gunn*, 1207! Franklin Co.: high heathy plains between the Gordon and Franklin Rivers, near Macquarie Harbour, *Gunn*, 1208!

The plant seems generally to be a small or even dwarf shrub, but on Mt. La Pérouse it grows, according to *F. v. Mueller*, 6–11 m. high.

The specimens from Macquarie Harbour differ from the rest in so far as the bracts are more or less silky pubescent on the back. The locality being rather distant from the principal area, this pubescence may indicate the presence of a local variety which at present cannot be defined more exactly.

2. *E. breviflora*, *Stapp.* *Frutex* (teste *Cunningham*) altus, multiramulus, ramis pubescentibus vetustis cortice fusco obtectis. *Folia* creberrima, subpetiolata, elliptico-ovata, a medio basin versus angustata, acuta vel acuminata, aceroso-mucronata, 6–9 mm. longa, 3–5 mm. lata, coriacea, margine sub lente valido minutissime serrulata, glaberrima, subtus saepe nervoso-striata, nervis subparallelis vel flabellatis. *Flores* versus apices ramulorum capitatum vel subspicatum congesti. *Bracteae* ovatae, superiores elongatae, acutae, margine minutissime ciliolatae. *Sepala* bracteis praecedentibus simillima, sub anthesi 3–3·5 mm., matura 4 mm. longa. *Corollae* tubus breviter infundibuliformis, 1·5 mm. longus; lobi ovati, subobtusius, tubo duplo longiores. *Antherae* filamentis brevibus sub fauce corollae ortis insidentibus, apicibus ex ore vix exsertis. *Stylus* 0·75 mm. longus; stigmatibus inclusis. *Capsula* 2 mm. alta. *E. heteronema*, *Hook.*, Bot. Mag. tab. 3,257, non *Labill.*; *E. heteronema*, β .? *subreflexa*, DC, Prodr. vii. 762. *E. heteronema*, var.? *planifolia*, Benth. Fl. Austr. iv. 239 *ex parte*. *E. dubia*, var. *subreflexa*, N. E. Br. in Kew Bulletin, 1909, 228.

NEW SOUTH WALES. Blue Mountains: West of Port Jackson and Country North of Bathurst, *Cunningham*, 151! New England, comm. *C. Moore*! Muniong Mountains: without precise locality, *F. v. Mueller* (according to *Bentham*); Mt. Kosciuszko, *Maiden and Forsyth*!

VICTORIA. Buffalo Range : Sources of the Mitta Mitta River, 1,300 m., *F. v. Mueller* ! Mount Aberdeen, *F. v. Mueller* !

E. bawbawiensis, *Stapf*. *Frutex* multiramosus, ramis pubescentibus gracilibus cortice fusciscente obtectis, *Folia* creberrima, subpetiolata, late lanceolata, acuta, mucronata, 6-7 mm. longa, circiter 3 mm. lata, coriacea, margine sub lente serrulata, glaberrima, nervis obscuris. *Flores* ad apices ramorum congesti. *Bracteae* ovatae vel elliptico-ovatae, subacutae, margine minutissime ciliolatae. *Sepala* bracteis praecedentibus simillima, 5 mm. longa. *Corollae* tubus cylindricus, superne paulo ampliatus, 4-4.5 mm. longus ; lobi ovati, obtusi, ad 3 mm. longi. *Antherae* filamentis brevibus sub fauce corollae ortis insidentibus, apicibus ex ore vix exsertis. *Stylus* medio incrassatus, 4.5 mm. longus ; stigmatibus stamina superante. *E. heteronema* var. ? *planifolia*, Benth., Fl. Austr. iv. 239 *ex parte*.

VICTORIA. Mt. Bawbaw, *F. v. Mueller* !

E. Stuartii, *Stapf*. *Frutex* multiramosus, ramis pubescentibus cortice fusco obtectis. *Folia* creberrima, subpetiolata, ovata, basi late rotundata, acuta vel breviter acuminata, pungentia, 4.5-5.5 mm. longa, 3.5-4 mm. lata, valde coriacea, margine laevissimo, nervis subtus plerumque 3 prominulis vel subobscuris. *Flores* ad apices ramorum capitatum vel spicatum congesti. *Bracteae* ovatae, vel superiores ovato-lanceolatae, acutae, ciliolatae. *Sepala* bracteis praecedentibus simillima, vix 4 mm. longa. *Corollae* tubus cylindricus, superne paulo ampliatus, 4 mm. longus, lobi ovati, subacuti, tubum aequantes. *Antherae* filamentis iis longioribus in fauce corollae ortis insidentibus ex ore totae exsertae. *Stylus* medio paulo incrassatus, ad 5 mm. longus ; stigmatibus apices antherae aequante, in fructu calycem 2 mm. superante. *E. heteronema* var. ? *planifolia*, Benth., Fl. Austr. iv. 239, *ex parte*.

TASMANIA. Kent Co. : South Port, *Stuart* !

EXPLANATION OF PLATE.

Epacris heteronema.

1, leaf ; 2, flower with involucre of bracts ; 3, bract ; 4, flower cut open ; 5, stamen.

E. breviflora.

6, leaf ; 7, flower with involucre of bracts ; 8, bract ; 9, flower cut open ; 10, corolla ; 11, stamen.

E. bawbawiensis.

12, leaf ; 13 flower with involucre of bracts ; 14, bract ; 15, flower cut open ; 16, stamen.

E. Stuartii.

17, leaf ; 18, flower with involucre of bracts ; 19, bract ; 20, flower cut open ; 21, stamen.

All the figures $\times 4$, excepting fig. 10, which is $\times 6$.