

# THE TROPICAL ACACIAS OF QUEENSLAND.

(With Descriptions of New Species).

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(With Seven Plates).

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*Introductory.* My examination of Australian tropical Acacias\* has gradually led to an investigation of those of tropical Queensland. I have found that their taxonomy was in a very unsatisfactory state, and one of the results of my work has been to indicate certain lines of investigation. As regards Queensland we can build on the foundations laid by Cunningham, Bentham, Mueller, Bailey and Cambage, but the following pages show some of the many hiatuses there are at present in our knowledge.

Tropical Queensland is not a botanical province, but I speak from experience when I say that the possession of a list of the species in that area will be a public convenience.

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\*See Bibliography, p 21.



In *Acacia* we have the old trouble of non-matching, or doubtful matching, of flowers and fruits. This difficulty is often referred to in the *Flora Australiensis*, and with collectors at any time it is a real one because of the comparative scarcity of permanent residents in the tropics, and of the distinct interval that often occurs between flowering and fruiting time in this genus. The flowering specimens, being the more attractive and conspicuous, are by far the more abundant in herbaria. Correspondents are asked for fruiting specimens, but while the task may be difficult enough if the pods are *in situ*, it is sometimes immeasurably greater if they are detached.

*Select Bibliography.*

*Bentham, George.* "Notes on Mimosæ," with a synopsis of species (Tribe iii. *Acaciæ*), in Hooker's *London Journal of Botany*, i, 318-392, 494-523 (1842). In Latin. This is valuable in that it describes a number of Queensland species collected by Allan Cunningham, Charles Fraser, Ferdinand Bauer (Brown's colleague), Major Mitchell. The species that interest us most in the present enquiry are those collected by Allan Cunningham.

*Mueller, F.* "Contributiones ad Acaciarum Australiæ Cognitionem" by Ferd. Mueller. Communicated (and edited) by Bentham. *Journ. Linn. Soc.*, iii, 114 (1859).

This primarily takes cognisance of the *Acacias* of what is now the Northern Territory, collected by the author in the Expedition under A. C. Gregory in 1856 from the Lower Victoria River to the Gulf of Carpentaria. At the same time Mueller includes some species from Queensland and other parts of Australia.

Of the localities given, I only know three as stated to occur in tropical Queensland. It has since been proved that a number of species first recorded by Mueller from the Gulf of Carpentaria have since been found in Northern Queensland, but it must be borne in mind that Mueller collected on the Northern Territory side of the Gulf of Carpentaria, and it is unscientific to record for a State unless a specimen has been collected within the borders of that State.



*Bentham, G.* "Flora Australiensis" (B. Fl. ii). *Acacia* is dealt with at pp. 301-421 (1864). Referred to hereafter as Bentham.

It is not easy to pick out the North Queensland Acacias in this work unless specific localities are quoted, since some are to be found under "N. Australia."

*Bentham, G.* "Revision of the Suborder Mimosæ." *Trans. Linn. Soc.*, xxx, 335 (1875), with 4 plates of pods of *Acacia*. Acacias are dealt with at pp. 444-533, and in the beginning of the paper.

*Mueller, F.* Iconography of Australian species of *Acacia* and cognate genera. Decades i-xiii, 1887-8.

The value of this quarto work, great as it is, is depreciated because no information is given as to the sources of the specimens illustrated. We do not know whether they are the types, or where they were collected, or any history of them. The history has been elucidated in a few cases, and perhaps the tedious work (which can only be carried out at the Melbourne Herbarium) of matching these figures by actual specimens, can be undertaken. At present all that we can say (and the same remarks apply to Mueller's "Flora of Victoria," his "Eucalyptographia," and his companion illustrated works on the Myoporinæ, Salsolaceæ and Candolleaceæ) is that they depict plants attributed to the species whose name they bear. It is regrettable that this example of figuring plants of whose origin we know nothing, has been followed by some others, quite thoughtlessly, I am sure. If a plant is worth figuring at all, it is worthy of a statement as to whence it was obtained, and other necessary particulars concerning it.

*Bailey, F. M.* "Queensland Flora." Part ii (1900). Referred to hereafter as Bailey. This work makes a very free use of the Flora Australiensis. In a number of cases Bailey admits into the flora of Queensland species whose only claim is Bentham's statement, "Islands of the Gulf of Carpentaria" (R. Brown and others). Bailey admits some of Mueller's Carpentaria records (almost invariably Northern Territory) in a similar way. It is not proper to admit such records as Queensland without further evidence, however we may feel in our own minds



that, as botanical exploration proceeds, they will eventually be found to occur in Queensland.

*Cambage, R. H.*, in *Proc. Roy. Soc. N.S.W.*, xlix, 389 (1915). This is a valuable paper because it embodies the results of the travels of the author himself, who collected this genus carefully. It is hereafter referred to as Cambage.

*Maiden, J. H.* The chapter on Acacias in the following work: "The Flora of the Northern Territory by Alfred J. Ewart and Olive B. Davies, with the co-operation of J. H. Maiden, E. Cheel and A. A. Hamilton" (published December, 1917, by the Federal Government).

*Maiden, J. H.* "Notes on *Acacia*, No. ii. Tropical Western Australia (including descriptions of new species)." (*Proc. Roy. Soc. N.S.W.*, li, 71 (1917)).

#### *Doubtful records.*

I propose that the following species be removed from the flora of tropical Queensland, unless satisfactory evidence be forthcoming. I do not know of such evidence in regard to the species named.

1. *Bynoeana* Benth. in *Linnæa*, xxvi, 614. Bentham, p. 337, quotes "Gulf of Carpentaria, *Mueller*," which is probably Northern Territory. It is found in North Western Australia, and also in Western and South Australia. Bailey, p. 482 has no additional information.

2. *conspersa* F.v.M. in *Journ. Linn. Soc.*, iii, 140, from Roper and Limmen Bight Rivers, Gulf of Carpentaria, Northern Territory. Bentham, p. 403, cites a number of Northern Territory localities. Bailey, p. 507, cites one (or more) of them, "Islands of the Gulf of Carpentaria" (*R. Brown*), and on that, admits it into the flora of Queensland.

3. *delibrata* A. Cunn. Benth. in *Hook. Lond. Journ. Bot.*, i, 374, not of *Mueller*'s "Iconography." This is a North West Australian plant so far as we know. It should be looked for in Northern Queensland; it is not known to occur there at present.

The *A. delibrata* referred to by Bailey, p. 507, from "Gulf Country" (Bancroft) is *A. Hemsleyi* Maiden (see



*Proc. Roy. Soc. N.S.W.*, li, 87, 1917, with a figure. *A. delibrata* is described at p. 80 of the same paper, also with a figure).

4. *dimidiata* Benth. in *Hook. Lond. Journ. Bot.*, i, 381. The type comes from "North Coast in various places." Bentham, p. 412, quotes Northern Territory localities. This is a common Northern Territory species, admitted into the Queensland flora by Bailey, p. 513, with only the reference "Islands of the Gulf of Carpentaria, R. Brown."

5. *dineura* F.v.M. in *Journ. Linn. Soc.*, iii, 130. Recorded by Bailey as a Queensland plant in *Queens. Agric. Journ.*, p. 28 (Jan. 1909) on a Stannary Hills (Dr. T. L. Bancroft) plant which is *A. hemignosta* F.v.M., according to specimens kindly furnished by Mr. C. T. White. *A. dineura* has not been found out of the Northern Territory, so far as I am aware, and what its differences from *A. latescens* Benth. are, I am not clear at present.

The figure of *A. dineura* in the Iconography, is *A. latescens* Benth.

6. *gonocarpa* F.v.M. in *Journ. Linn. Soc.*, iii, 136. Bailey, p. 506, repeats "Rocky shores of the Gulf of Carpentaria (*Mueller*) from Bentham, p. 401, but there is no evidence, so far as I am aware, that the species extends into Queensland. It is not uncommon in the Northern Territory.

7. *impressa* F.v.M. in *Journ. Linn. Soc.*, iii, 133. Type from the Northern Territory. Bentham, p. 380, has no additions other than Northern Territory. It is common in North West Australia. Bailey, p. 494, has "Northern Interior." This, however, is not a definite locality. I have seen a specimen from James River, Upper Georgina River (Lieut. Dittrich from Herb. Melb.), which, however, is in the Northern Territory.

8. *juncifolia* Benth. in *Hook Lond. Journ. Bot.*, i, 341. The type came from the "Interior of New South Wales." A co-type was Mitchell (Mt. Pluto, near 25° S. Lat.).



In my paper on the Acacias of the Northern Territory (in Ewart and Davies' work already referred to), I have shown that this species does not extend to the Territory, some, at least, of the Territory references in B. Fl. ii, 339, being *A. Alleniana* Maiden described in my paper.

Bailey, p. 483, follows Benthams, and I recommend that the typical Queensland localities be eliminated until such time as a specimen of *A. juncifolia* from tropical Queensland can be produced.

9. *latifolia* Benth, in *Hook. Lond. Journ. Bot.*, i, 382. The type comes from "North Coast (?) Bauer." Bailey, p. 512, quotes "Islands of the Gulf of Carpentaria. *R. Brown.*" Roth records it, as regards the fibre of its inner bark, from the hinterland and coast of Princess Charlotte Bay, Cooktown, Cape Bedford, etc., in his North Queensland Ethnography, Bull. No. 1. This is based on a wrong determination. It should be *A. sericata* A. Cunn. Bailey records it from Princess Charlotte Sound on Dr. W. E. Roth's specimens.

10. *linarioides* Benth. in *Hook. Lond. Journ. Bot.*, i, 371. The type comes from "Australia, Bauer," and therefore probably from the Gulf of Carpentaria. Benthams, p. 393, has "Cavern Island, Gulf of Carpentaria" (*R. Brown*, who was with Bauer), and Bailey, p. 502, has no additional information.

It is found in North West Australia as well as the Northern Territory.

11. *spondylophylla* F.v.M. *Fragm.*, viii, 243. Quoted by F. Bennett in this *Journ.* xix, 70, from Irvinebank, is *A. hippuroides* Heward.

12. *stipuligera* F.v.M. in *Journ. Linn. Soc.*, iii, 144. Mueller gives only Northern Territory localities. Benthams, p. 393, adds nothing to these. Bailey, p. 503, says "Gulf Country," which must be backed by a specimen.

I have seen a specimen from James River, Upper Georgina (Lieut. Dittrich, from Herb. Melb.). The Surveyor General of Queensland informs me that "James River" is in the Northern Territory.



13. *subternata* F.v.M. in *Journ. Linn. Soc.*, iii, 124. Type from Table-land, Upper Victoria River, Northern Territory. F. M. Bailey in *Queens. Agric. Journ.*, Sept. 1906, p. 162, records this species from Newcastle Range on the authority of a specimen from A. H. Blackman. I have seen it through the courtesy of Mr. C. T. White, and it is *A. galioides* Benth.

14. *translucens* A. Cunn. in *Hooker's Icones Pl.*, t. 160. The type comes from North Western Australia. Benth. p. 379, gives "Islands of the Gulf of Carpentaria, R. Brown; Henne." Bailey, p. 494, has "Islands of the Gulf of Carpentaria" (R. Brown). It is common in the Northern Territory.

15. *trineura* F.v.M. *Pl. Vict.*, ii, 25, and *Fragm.*, iv, 5. Quoted by F. Bennett in this *Journ.*, xix, 68, from Irvinebank. The type comes from Victoria; it has since been found in southern New South Wales (Temora, etc.). It is a most improbable record, but what it is I cannot say, in absence of the specimen.

16. *xylocarpa* A. Cunn. Benth. in *Hook. Lond. Journ. Bot.*, i, 370. The type comes from Dampier's Archipelago, North West Australia. Benth. p. 401, gives additional North-West localities, and adds some Northern Territory ones. Bailey, p. 506, says "Gulf of Carpentaria. Mueller," but Mueller's specimen comes from the Northern Territory, and I have never seen a Queensland one.

*Tentative list of tropical Queensland species.*

For the most part, the sequence of the *Flora Australiensis* has been followed. I have been at pains to ascertain the origin of the type.

PUNGENTES (Plurinerves).

1. *phlebocarpa* F.v.M. in *Journ. Linn. Soc.*, iii (not ii), 119. Type from Seven Emu River, Gulf of Carpentaria, Northern Territory. Bailey, p. 481, has "Gulf of Carpentaria," but although he admits it into the flora of Queensland, I do not think he ever saw a Queensland specimen. I have since the publication of his work, seen a specimen from the Gilbert River (*Armit*, ex herb. Melb.), which proves that it is a Queensland species.



## BRUNONIOIDEÆ.

2. *hippuroides* Heward. Benth. in *Hook. Lond. Journ. Bot.*, i, 344.

Type from Usborne's Harbour, North West Australia. Recorded in B. Fl., ii, 342, also from Northern Territory. It was recorded from Queensland by Bailey in his "Comprehensive Catalogue."

I have now received it from Stannary Hills (Dr. T. L. Bancroft), Irvinebank (F. Bennett), Herberton (R. C. Ringrose), all through C. T. White.

3. *galioides* Benth., in *Hook. Lond. Journ. Bot.*, i, 344. The type comes from "Australia," *Bauer*, which means Gulf of Carpentaria. Bentham, p. 342, records "a variety with rather stouter phyllodia," Sweers Island, *Henne*. This is in the Queensland portion of the Gulf of Carpentaria, near Bentinck Island. Cambage, p. 416, records it from Forsayth to Normanton, p. 420, two miles north of Croydon.

Other localities are near Herberton (S. Dixon), Stannary Hills, *via* Irvinebank, (Dr. T. L. Bancroft), Cape River (Herb. Melb.), Rockhampton (no collector).

4. *conferta* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 345. The type comes from the tributaries of the Macquarie River, N.S.W.; "also in *Bauer's* collection." Bentham, p. 343, quotes Shoalwater Bay, *R. Brown*, which is just inside the tropics.

I have seen a specimen "Shoalwater Bay, *R. Brown*, 1802-5." It may be that this is the specimen referred to as "in *Bauer's* collection," for Ferdinand Bauer was the artist who accompanied and who worked under Brown's direction. See my "Sir Joseph Banks: the Father of Australia," p. 69.

This is the only specimen of *A. conferta* from Queensland I have seen, and I would invite the attention of collectors to it. It is fairly common in the drier (not the driest) parts of New South Wales, both north and west.

## UNINERVES (Brevifoliæ).

4a. *purpureapetala* Bailey, in *Queensland Agric. Journ.* xv. 780, (1905).



Type from Herberton (J. Stirling). Mr. C. T. White also sends it to me from Stannary Hills (Dr. T. L. Bancroft).

UNINERVES (Angustifoliæ).

5. *sentis* F.v.M. in *Journ. Linn. Soc.*, iii, 128. "In Australia orientali tropica."

In the rare *Pl. Indig. Col. Vict.*, ii, 18, Mueller gives a useful description in English of his species, stating that the dromedaries (camels) of Howitt's Expedition in search of Burke and Wills were extremely fond of browsing upon it, and adds that "the generally paired, much longer peduncles, distinguish *A. sentis* at once, even in its exstipular state from Reichenbach's figure of *A. decora*, to which species it was referred, though not without doubt, by Bentham in *Journ. Linn. Soc.*, iii, 128." He further discusses the dissimilarities. For a figure of *A. decora* Reichenb. see my *Forest Flora of N.S.W.*, Part 45.

Bentham, p. 360, records it from the Bargoo (Barcoo) River, and figures the pod in *Trans. Linn. Soc.*, xxx, t. 67. Bailey, p. 487, quotes "Gulf of Carpentaria." Cabbage, p. 428, specifically quotes Normanton to Cloncurry; p. 436, Cloncurry to Hughenden; p. 437, Hughenden to Prairie. These are the first precise tropical Queensland localities known to me.

6. *fasciculifera* F.v.M. in *B. Fl.*, ii, 361. The pod of *A. macradenia* as described in *B. Fl.*, ii, 362, is that of *A. fasciculifera* as pointed out by Mueller in *Wing's Southern Science Record* for July, 1882. Both species are recorded from Rockhampton. Its range requires further investigation.

UNINERVES (Racemosæ).

7. *macradenia* Benth. in *Mitch. Trop. Aust.*, 360. The type came from beds of rivers near Mt. Pluto. The pod from Rockhampton (Thozet) as quoted in *B. Fl.*, ii, 362, is that of *A. fasciculifera* F.v.M. It may be admitted into a list of tropical species on the authority of a species from the Leichhardt district sent by Bailey to Mueller. Its range requires further investigation.

7(a) *A. Bancrofti*, n. sp.

Frutex glaucus ca. 6', ramulis teretibus, apicibus angulatis. Phyllodiis obovatis ad lanceolatis, obtuse acuminatis, plerumque 12-18cm longis,



latitudine valde mutantibus (2-9 cm), basin versus valde attenuatis, in petiolum fere 2 cm terminantibus, falcatis, asymmetricis, parte dorsale margine undulata, in modo ilicifolii, lobos triangulares saepe formantibus in glandulam terminantibus, 1-nervis, prominenter et tenuiter penniveniis. Racemis 8 cm longis, laxis, minus 20 capitulis globosis, 5-meris. Rhache laeve. Calyce sinuato-lobato, margine ciliata, sparse piloso, dimidio corollam aequante. Petalis glabris, infra lobis cohaerentibus. Pistilli parte superiore pilosa. Legumine recto, symmetrico, 17 cm longo, 1.5 cm lato, valvis nitentibus, nigris, reticulatis, marginibus planis, seminibus longitudinalibus, funiculo duplo plicato, semen bis circumcingente.

A glaucous shrub of about 6 feet, forming stools of several feet in diameter, branchlets round, though with the tips angular.

Phyllodia obovate to lanceolate, bluntly acuminate, usually 12 to 18 cm (say 5 to 7 inches) long, and varying greatly in width, say from 2 to 9 cm; much narrowed towards the base, terminating in a distinct petiole of nearly 2 cm. Falcate, asymmetrical, the main nerve nearer the dorsal portion which has often a holly-leaved undulate margin, the lobes often forming triangular processes terminating in a gland, 1-nerved and prominently and finely penniveined, the margins nerve-like.

Racemes of bright yellow flowers, about 8 cm long, loose, with under 20 globular heads of flowers, sometimes two in each axilla, 5-merous. The rhachis smooth, with a small bract.

Calyx sinuate-lobed, with ciliate edge, and scattered hairs running up from the base, about half the length of the corolla. Petals glabrous, united below the lobes. Pistil smooth when young, but the upper half hairy when more mature.

Pod straight, symmetrical, 17 cm long and 1.5 cm broad, the valves shining, black, reticulate, the margins flattish and grooved, the seeds longitudinally arranged, elliptical, dull, with a funicle bent double and twice encircling the seed and terminating in a clavate arillus.

This interesting species commemorates the Bancrofts, father and son, the former the late Dr. Joseph Bancroft, and the latter Dr. Thomas Lane Bancroft, who have done splendid work in the elucidation of the flora of Queensland (to mention only one phase of their scientific activities).



Type from dry stony ridges at Beta. In flower 1st July, 1913 (J. L. Boorman). Description of pod and seed drawn up from a specimen "between Haly's and York's, on the newly cut road, the Dawson, October, 1877 (Dr. Joseph Bancroft).

Other specimens have phyllodia with lobes more pronounced than the type, for example (a) Nanango (C. H. Grove, No. 54). In this specimen the rhachis and peduncles are covered with a short golden, silky pubescence, the calyx is comparatively shorter than in the case of the type, and the petals are sprinkled with hairs.

(b) Eidsvold (Dr. T. L. Bancroft).

(c) Copperfield (John Shirley).

The following specimens have the leaves non-lobed, or scarcely lobed, like the type.

(d) A specimen mixed with a specimen of *A. macradenia* Benth. collected by Mitchell at Mt. Pluto in 1846.

(e) Clermont (H. Salmon, No. 28).

(f) Rockhampton (Rev. J. E. Tenison Woods, as *A. macradenia* (?)).

It is confined to Queensland, so far as is known at present, but it may be expected to be found in northern New South Wales.

#### Affinities.

1. With *A. penninervis* Sieb.

[*A. Bancrofti* was looked upon by Bailey as a form of *A. penninervis*, and perhaps by Bentham also].

*A. Bancrofti* has not the secondary nerve which is a character in *A. penninervis*, and the lobing of the phyllodes is absent in the latter species. The raceme in *A. penninervis* is shorter and the flowers are 48 in the head. The flowers in *A. penninervis* are narrower, the petals more separate and the calyx less continuous with the corolla. The pods of *A. penninervis* are not shining black; the sculpture of the margins is different in the two species. At the same time the affinity of the two species is evident.

2. With *A. macradenia* Benth.

This has obvious affinity as already indicated as having been noted by Bailey. *A. macradenia* has a smaller raceme with the calyx-lobes separate to the base, and the curved



Pods much smaller, with orbicular seeds, with the funicle not folded and about half as long as the seed. It is figured in the Iconography, with some points scarcely agreeing with Bentham's description, but I agree that the species depicted is as stated.

3. With *A. falcata* Willd.

The affinity has been suggested by competent botanists. *A. falcata* is a single-stemmed species with more angular branchlets, the flowers are pale-coloured, not bright yellow, and the racemes shorter, the sepals are free and the petals soon separate. The pods are much shorter and narrower. Some phyllodes present a good deal of resemblance to the non-lobed forms of *A. Bancrofti*.

4. With *A. latescens* Benth.

This species may be mentioned also having a tendency to angled-lobing, terminating in a gland, but the phyllodes are lanceolate-falcate, usually 2-nerved, the calyx is different, nor is there an encircling funicle.

8. *salicina* F.v.M. var. *varians* Benth., B. Fl., ii, 367. Bentham, at p. 367 quotes Curtis Island (*Henne*), which is a Queensland locality, almost in the tropics. Bentham says "to this belong all the tropical and sub-tropical specimens." I have seen specimens from the Northern Territory. It is figured and described in Part 39 of my Forest Flora of New South Wales.

9. *Dietrichiana* F.v.M. in "*Wing's Southern Science Record*," ii, 149 (July, 1882). The type comes from Lake Elphinstone (Lat. 21.30, Long. 148.20). It is figured in the "Iconography." I have it also from Beta (*J. L. Boorman*).

10. *decora* Reichb. *Icon. Exot.*, t. 199. I have not personally seen this species farther north than Rockhampton (see my Forest Flora of N.S.W., Part 45, Plate 169). In view of the confusion which has arisen between this species and *A. sentis*, it would perhaps be desirable to re-examine all tropical specimens referred to *A. decora*.

Bailey, p. 491, says "Gum eaten, Cloncurry," evidently on the authority of Edward Palmer in *Proc. Roy. Soc. N.S.W.*, xvii, 94 (1883), a plant I believe to be referable to *A. sentis*.



## PLURINERVES (Oligoneuræ).

11. *Simsii* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 368. The type comes from Cleveland Bay, Queensland. Bentham, p. 382, quotes a number of other North Queensland localities. Specific localities are, East of Inlet, Cairns (R. H. Cambage, No. 3,840); about 15 feet high, granite, 1,600 feet, Almaden (R. H. Cambage, No. 3,890), 8 feet high, on granite, Townsville (R. H. Cambage, No. 3,802), and I could quote others. It is confined to North Queensland so far as I am aware.

## PLURINERVES (Microneura).

12. *homalophylla* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 365. Type from Lachlan River, N.S.W.

Cambage, p. 439, provisionally records this species ("Boree," No. 3,971) from "a little more than half way from Winton to Longreach." Peak Vale, Clermont (correspondent of Dr. J. Shirley). Bailey, p. 495, simply says "inland localities." The following locality is sufficiently close to warrant its inclusion in the present list. It is a specimen labelled "Neercool" Creek in Mueller's handwriting. The Surveyor General of Queensland informs me that Neerkool Creek has its source about 4 miles south of Stanwell on the Central Railway, and under the names of Neerkool, Scrub and Gavial Creeks flows into the Fitzroy River a short distance below Rockhampton. The specimen was perhaps collected by E. Bowman, who collected *A. julifera* there, see p. 41.

13. *Cambagei* R. T. Baker in *Proc. Linn. Soc. N.S.W.*, xxv, 661 (1900). The "Gidgee." See my *Forest Flora of N.S.W.*, Part xl, p. 24. Cambage, pp. 428, 431, gives Normanton to Cloncurry, p. 436, Cloncurry to Hughenden, p. 437, Hughenden to Prairie; p. 438, Hughenden to Winton; p. 439, Winton to Longreach.

14. *Oswaldi* F.v.M., Bentham, B. Fl., ii, 384, quotes *Pl. Vict.*, ii, 27, but that work quotes *Linnæa* xxvi, 609, for the description of the species. It was originally described from specimens in the dry country of New South Wales (perhaps Victoria) and South Australia. In Bentham,



p. 384, we have "Towards Broad Sound, without collector's name," and I admit it into a list of tropical species on that specimen. Dr. J. Shirley's "near Mount Morgan," is approaching the tropics. Bailey admits it in his Queensland Flora simply as "common inland." I have several other specimens from sub-tropical Queensland.

-15. *coriacea* DC. in *Mem. Leg.*, 446. The type comes from "Eastern New Holland." Mueller has a note as to whether it is a form of *stenophylla*. Besides Northern and Central Queensland, it occurs in the Northern Territory, and also in North West Australia, and sub-tropical Western Australia.

Cabbage, pp. 437, 438, Hughenden to Prairie, describes it under 3,961, Wirewood, as *A. cibaria*, which is a *lapsus plumæ* for *A. coriacea*. I have it also from Beta (J. L. Boorman).

It is not mentioned either by Bentham or Bailey as a Queensland plant.

16. *stenophylla* DC., Benth, in *Hook. Lond. Journ. Bot.*, i, 366. The type comes from the Lachlan River, N.S.W. Bentham, p. 385, quotes it from the Northern Territory, and, as regards Queensland localities, Maranoa and Narran Rivers, *Mitchell*. (He also gives localities in Victoria and South Australia). Bailey, p. 497, repeats these Queensland localities. Cabbage, pp. 428, 432, gives Normanton to Cloncurry; p. 436, Cloncurry to Hughenden; p. 438, Hughenden to Winton; p. 439, Winton to Longreach.

Other Queensland localities could be given that connect with the sub-tropical localities of the other States.

#### PLURINERVES (Nervosæ).

17. *hemignosta* F.v.M. in *Journ. Linn. Soc.*, iii, 134. From the Gilbert River (together with Northern Territory localities). It is common in North Western Australia. Bentham, p. 385, has additional information. Bailey omits it. Cabbage, pp. 401 and 404 has Almaden; p. 416, Forsayth to Normanton; p. 428, Normanton to Cloncurry. I have it also from Mt. Albion (S. Dixon) and Saxby River (Miss F. Sulman).



18. *harpophylla* F.v.M. in B. Fl., ii, 389. Bentham has Rockhampton, *Thozet*. Various localities, Emerald to Rockhampton (J. L. Boorman). See my "Forest Flora of N.S.W.," Part 34, p. 51.

19. *excelsa* Benth., in Mitchell *Trop. Austral.*, 225. This may be admitted into the flora of tropical Queensland on the authority B. Fl., ii, 390. Of the localities, Clarke River, *Daintree*, is tropical.

I have seen specimens, Flinders River, named by Mueller but no collector is quoted, also Rosewood, near Rockhampton (P. O'Shanesy). See also my *Forest Flora of N.S.W.*, Part 33, p. 39.

20. *complanata* A. Cunn., Benth., in *Hook. Lond. Journ. Bot.*, i, 369. The type comes from "Dumaresque and Brisbane Rivers." Bentham, p. 390, gives Endeavour River, *Banks and Solander*.

It extends as far south as the Macleay River district in New South Wales.

21. *homoclada* F.v.M. in *Fragm.*, xi, 34. Type from Hinchinbrook Island. I have not seen any other specimen, and the attention of collectors is invited to it.

#### PLURINERVES (Dimidiatæ).

22. *Rothii* Bailey in *Queens. Agric. Journ.*, vi, 39. Type from "mouth of the Batavia River." (Flows into the east coast of the Gulf of Carpentaria). See also Bailey, p. 500.

23. *sericata* A. Cunn., Benth., in *Hook. Lond. Journ. Bot.*, i, 380. The type comes from Montagu and York Sounds, North West Australia. Bentham figures the pod, *Trans. Linn. Soc.*, xxx, t. 67. He (B. Fl., ii, 391) adds Northern Territory localities. Bailey, p. 501, has "Gulf of Carpentaria, *Mueller*," but this is Northern Territory. He adds Etheridge River, which is of course Queensland. I have it from Princess Charlotte Bay (Dr. W. E. Roth, through C. T. White); Cape York (E. Ramsay; E. Daemel); Jericho (J. L. Boorman). Cambage, pp. 416 and 420, quotes it from Gilbert River to Croydon.



24. *flavescens* A. Cunn., Benth., in *Hook. Lond. Journ. Bot.*, i, 381. The type comes from "North-east Coast." In Bentham, p. 391, North Queensland localities are given. In Bailey, p. 501, the only additional locality given is Mt. Wheeler, *Thozet*.

Roth (*Bull. N. Q. Ethnography* No. 1) explains how the aborigines prepare twine from the bark, about Cape Bedford and Cooktown.

Cabbage, p. 396, quotes Kuranda to Almaden.

It comes as far south as Moreton Bay.

25. *oraria* F.v.M. in *Fragm.*, xi, 66. Co-types from Port Denison, Rockingham Bay and Trinity Bay. Mueller figures it in the *Iconography*.

#### JULIFLORÆ (Rigidulæ).

26. *Wickhami* Benth. in *Hook. Lond. Journ. Bot.*, i, 377 not 379. The type comes from Swan Bay, North West Australia. In B. Fl., ii, 392, Bentham adds a Northern Territory locality.

Stannary Hills (Dr. T. L. Bancroft, through C. T. White) is the only Queensland locality known to me.

27. *lysiphloea* F.v.M. in *Journ. Linn. Soc.*, iii, 137, as *lysiphloia*. Type from the Northern Territory. It extends to North Western Australia.

The inner bark is used by the aborigines of the Middle Palmer River (Roth in *Bull. N. Q. Ethnography*, No. 1), which appears to be the first specific Queensland locality.

I have seen it from Normanton (T. Hann).

28. *Chisholmi* Bailey in *Queens. Agric. Journ.*, iv, p. 47. The type comes from Prairie, Torrens Creek. Northern Railway Line. See also Bailey, p. 502.

Cabbage, p. 432, quotes it Normanton to Cloncurry ; (?) p. 436, Cloncurry to Hughenden ; p. 437, Hughenden to Prairie.

29. *umbellata* A. Cunn., Benth. in *Lond. Journ. Bot.*, i, 378. (*acradenia* A. Cunn.). The co-types come from Cleveland Bay and Cape Flinders. Bentham adds some Northern Territory localities. It extends to North Western  
C



Australia. Cambage, pp. 428, 432, has Normanton to Cloncurry. I have seen it from Stannary Hills (Dr. T. L. Bancroft).

30. *brevifolia* Ben h. B. Fl., ii, 395 = *A. aulacocarpa* A. Cunn. var. *brevifolia* in *Journ. Linn. Soc.*, iii, 143 (not 144) = *A. leptophleba* F.v.M. var. *brevifolia* (as corrected in B. Fl., ii, 395).

Type from "Suttor Desert," or "Desert of the Suttor" (Mueller). I do not know the precise locality of the "Desert." (Under *A. salicina* Mueller in *Journ. Linn. Soc.*, iii, 126, speaks of "In eremo ad flumen Suttor"). *A. brevifolia* does not appear to have been found since, which is unsatisfactory. Pods are unknown, and as it has never been figured, I illustrate the type at Plate i.

31. *A. curvinervia*, n. sp.

Frutex erectus 6-10', non ramosus. Ramulorum apicibus angulatis, ramulis inferioribus teretibus et cum aliquis phyllodiarum pubescente albo tectis. Phyllodiis obliquo-crescentibus mucrone deciduo, basin versus angustatis in petiolum brevem rugosum terminantibus, crescentis diametro 4 cm. maxima latitudine 2 cm., coriaceis venis numerosis curvatis, 3 v. pluribus prominentioribus. Floribus in spicis, plerumque geminis, 5-meris. Calyce irregulariter lobato, pilosissimo. Petalis laevibus, calycem duplo superantibus, dimidio longitudinis cohaerentibus. Legumine non viso.

An erect growing shrub of 6-10 feet, with marked absence of the usual branching habit. The ends of the branchlets angular and brown scurfy, with a sprinkling of short white hairs, the lower branchlets terete and covered with a soft white pubescence, which extends to the lower part or whole of the phyllodes, the majority of the branchlets and phyllodes glabrous. Phyllodia oblique-crescentic, with a brown, deciduous point, narrowed at the base, terminating in a short, wrinkled petiole; diameter of the crescent about 4 cm, greatest width up to 2 cm., very coriaceous with numerous curved veins three or more prominent than the others.

Flowers in spikes, usually in pairs, 5-merous. Calyx sinuate-toothed or irregularly lobed, very hairy, about half the length of the corolla. Petals smooth, slightly united about half-way up.



Pistil covered in such a thick coat of hair as to conceal its outline. Rhachis hairy. Pod not seen.

Collected in flower by J. L. Boorman at Beta, a railway station on the Central Railway, Queensland, 291 miles west of Rockhampton. Elevation about 1,300 feet, 3rd July, 1913. The type.

Also obtained in flower by the same collector at The Virgin, Springsure. Springsure is 40 miles from the railway junction at Emerald, which is itself 166 miles west of Rockhampton. June, 1913. These localities are a little south of the tropic.

#### *Affinities.*

1. With *A. brevifolia* Benth. It differs in the shape and indument of the phyllodia. The calyx of *A. brevifolia* is of a different shape, is glabrous, and is much smaller proportionately to the petals, while its pistil is smooth and that of *A. curvinervia* is hairy. At the same time, it would appear that, in the present state of our knowledge, *A. brevifolia* is closest to the new species.

2. With *A. difficilis* Maiden in Ewart's "Flora of the Northern Territory." The relations are more distant. Some of the shorter, more crescentic-phyllode forms of this species have a somewhat distant affinity to *A. curvinervia*, but the indument is different, the spikes of the former are more slender, while the calyx of *A. difficilis* is divided into sepals.

32. *gonoclada* F.v.M. in *Journ. Linn. Soc.*, iii, 140. A Northern Territory species. Cambage has it, p. 437, from Hughenden to Prairie. This is the first record for Queensland.

#### JULIFLORÆ (Tetrameræ).

#### 33. *A. Whitei*, n. sp.

Frutex parvus glaber, ramulis angulatis. Phyllodiis rectis vel paullo falcatis, plerumque lineari-lanceolatis apice basique angustatis, 5-12 cm longis, 4-5 mm latis, rigidis mediocriter crassis, 7 nervis prominentibus parallelibus longitudinalibus, uniformibus cum marginalibus, costa media prominentiuscula. Spicis solitariis vel geminis in axillis, brevibus, ca. 1.5 cm longis, sessilibus vel breviter pendunculatis, non gracilibus, densiusculis, rhache laeve. Floribus 4 v. 5-meris. Calyce truncato vel paullo lobato, petalis calycem ca. triplo superantibus. Petalis laevibus vel paullo pruinosis, costatis, dimidio longitudinis cohaerentibus. Pistillo



breviter piloso. Legumine (maturo non viso) lineari-lanceolato, paullo falcato, plerumque ca. 5 mm lato, ca. 4-5 cm. longo, marginibus valde incrassatis. Seminibus elongatis, longitudinaliter dispositis, valvis inter semina leniter constrictis, funiculo in arillum leniter expansum terminante.

A small woody shrub (of two to six feet at Stannary Hills ; a low straggling shrub at Herberton), glabrous, with angular branchlets. Phyllodia straight or slightly falcate, usually linear-lanceolate, gradually tapering into both ends, the apex a blunt point, at the base an indefinite nectary (gland), 5 to 12 cm. (2 to 5 inches) long, 4 to 5 mm. broad, rigid and moderately thick, with 7 well-defined parallel nerves, running the whole length of the phyllode and uniform with the marginal ones, the mid-vein somewhat more prominent.

Spikes single or two in the axils, short, about 1.5 cm. long, sessile or shortly stalked, not slender, rather dense, rhachis smooth. Flowers 4- or 5-merous, the bracts concave. Calyx truncate or somewhat lobed, somewhat thickened at the base, about a third the length of the petals. Petals smooth or slightly hoary, ribbed, united about half way up. Pistil covered with short hairs.

Pod (not seen quite ripe), linear-lanceolate, slightly falcate, usually about 5 mm. broad ; short, about 4 or 5 cm. long. with strongly thickened, raised paler-coloured margins. The seeds elongate, longitudinally arranged, the valves slightly constricted between the seeds, the funicle (not seen fully developed) forming a flattish ribbon ; terminating in a slightly expanded arillus.

Type. Stannary Hills, *via* Irvinebank, North Queensland (Dr. T. L. Bancroft, 1910, communicated by Mr. C. T. White).

Mr. White also communicated to me a flowering specimen collected by the late Rev. J. E. Tenison-Woods, at Herberton, with phyllodes rather shorter and broader than the type. Also a flowering specimen collected by Dr. Hamilton Kenny, December, 1911, at Herberton, and described by him as "common" there.

Named in honour of Cyril Tenison White, Government Botanist of Queensland, who has worthily succeeded his grandfather, the late F. M. Bailey, in that office.



*Affinities.*

The affinity of this species appears to be with the Western Australian *A. cochliocarpa* Meissner and *A. neurophylla* W. V. Fitzgerald. The phyllodes of all three are a good deal alike; those of Western Australia are of a yellower green and the veins are more marked.

The flowers and fruits are, however, very different, the pods of *A. cochliocarpa* being as indicated by the specific name, while the sepals are narrow-spathulate. In regard to *A. neurophylla* the same remarks apply; the pods are narrower, straighter and longer, without a pronounced margin, while the flowers have narrow-spathulate calyces, not so narrow as those of *A. cochliocarpa*.

## JULIFLORÆ (Stenophyllæ).

34. *cyperophylla* F.v.M. in B. Fl., ii, 400. A form attributed to this species is from the Flinders River. See my *Forest Flora of N.S.W.*, Vol. vi (Part 60), p. 273. It is figured at figure 1, Plate 227, and I invite the attention of Queensland botanists to it. Bailey, p. 505, gives no Queensland locality for the species.

35. *pityoides* F.v.M. in *Journ. Linn. Soc.*, iii, 135. A Northern Territory and North Queensland species. The original description includes the Gilbert to the Suttor. Bentham, p. 400, has Gilbert River (under North Australia), and adds "Ridges of the Suttor." Bailey, p. 505, has only the latter reference. Cambage, pp. 437, 438, has Hughenden to Prairie. I have also seen it from Jericho (J. L. Boorman).

36. *drepanocarpa* F.v.M. in *Journ. Linn. Soc.*, iii, 137. Described from Northern Territory. "Whitsunday and Palm Islands," Henne, in B. Fl. ii, p. 402, under "N. Australia." Bentham figures the pod at *Trans. Linn. Soc.*, xxx, t. 68.

## JULIFLORÆ (Falcatæ).

37. *doratoxylon* A. Cunn. This was originally described from New South Wales, and an account of it is given in my *Forest Flora of N.S.W.*, Vol. iv, p. 109, with Plate 141. Bentham quotes it from the Upper Maranoa, Mitchell, and Moreton Bay, C. Moore.



Cambage, at pp. 412, 413, who knows *A. doratoxylon* in New South Wales well, quotes it from Almaden to Forsayth and from Forsayth to Normanton with a query. His remarks at p. 413 should be read. After careful consideration later I cannot see any difference which cannot be explained by a change in environment, for North Queensland is far from the home of the type. The pods of the northern form are undoubtedly more fleshy. I have since received the following from Mr. C. T. White:

(a) "Lancewood," Gilbert River (E. W. Bick).

(b) "Lancewood," Rockhampton (Chief Engineer for Queensland Railways).

(c) Eidsvold and Dalby (both from Dr. T. L. Bancroft).

38. *torulosa* Benth. in *Journ. Linn. Soc.*, iii, 139. The type comes from the Nicholson and Northern Territory. I have received it from Groote Eylandt, Gulf of Carpentaria (A. E. Martin).

Bentham, p. 405, quotes "Dayman's Island, Endeavour Straits. W. Hill." I have seen it from the Endeavour River (W. Persieh, through Mueller). Bentham figures the pod at *Trans. Linn. Soc.*, xxx, t. 68. Cambage, pp. 416, 420, has Gilbert River to Croydon; (?) pp. 428, 432, Normanton to Cloncurry.

The four species which follow, viz., *julifera*, *Solandri*, *leptocarpa* and *polystachya* are often confused in collections, but I will try and make their limitations clearer. The notes which follow from B. Fl., ii, 317, supplemented by the specific descriptions in pages 405-7, are given in brackets.

[Phyllodia narrow-lanceolate. . . . usually with  
about 3 nerves more prominent than the rest.]

\* \* \* \* \*

[Phyllodia glabrous. Pod spirally twisted  
into numerous coils

Spikes dense, 1-1½ in. long]

Sepals spathulate . . . . . *julifera*

[Phyllodia glabrous. Spikes interrupted,  
2-3 in. long, slender. Calyx truncate].

"the fruit curled flexuous" (F. v. M.) . . *Solandri*

[Phyllodia more falcate than in the preceding species,  
often broader or longer, with more nerves.

Pod narrow or flat, straight or twisted.



Branches terete or nearly so. Flowers  
glabrous.

Calyx sinuate toothed (or truncate).

Pod very narrow and straight].

(often curled and flexuose. J. H. M.) .. *leptocarpa*

Calyx sinuate toothed (or truncate)

[Pod broad, very flexuose or twisted,

not spiral (netted veined, J. H. M.)

Seeds along the centre]. .. .. *polystachya*

The phyllodes of all four species may be very much alike, and it would be well if further enquiries could be locally made in regard to the amount of variation in each species. Subject to reservations, the phyllodes of *A. julifera* are falcate, comparatively narrow and short. Those of *A. Solandri* may be long, narrow, and hardly falcate. Those of *A. leptocarpa* and *A. polystachya* may be large and broad, but I am speaking only very generally.

The sepals of *A. julifera* are spatulate and divided, and are sharply different to those of the other three species.

The spike of *A. julifera* is dense, while that of *A. Solandri* is thin and markedly interrupted; this seems to me a character. Those of *A. leptocarpa* are moderately dense, but by no means so thin and interrupted as those of *A. Solandri*. The spike of *A. polystachya* is interrupted, but not to the same extent as *A. Solandri*; their similarity in this respect is, however, sufficiently close to necessitate great care, especially as the calyces of the last three species strongly resemble each other.

Coming to the pods, the figure of that of *A. julifera*, as figured by Bentham in *Trans. Linn. Soc.*, xxx, t. 68, shows a cincinnal or cochliate fruit, but (see Plate ii) the pod may sometimes take on a looser form, and thus come nearer to that of *A. Solandri*. The pod of *A. Solandri* is described by Mueller in *Macleay Mem. Vol.*, p. 225, as "curled-flexuose, compressed, about  $\frac{1}{6}$  inch broad." Bentham's description (p. 317) of the pod of *A. leptocarpa* as very narrow and straight, is not always true, but it may be curved and flexuose (as originally observed by Mueller in *Macleay Mem. Vol.*), so that in this respect it may approach *A. Solandri*. The pod of *A. polystachya* is different to that of the other three, being comparatively broad and netted-veined.



Here follow some notes on individual species.

39. *julifera* Benth. in *Hook. Lond. Journ. Bot.*, i, 374. Type from Rodd's Bay, Port Curtis. Bentham, *B. Fl.*, ii, 406, also quotes Cumberland Islands, *R. Brown*; Rockingham Bay, *W. Hill*; Edgecombe (Edgecumbe) Bay, *Dallachy*. He figures the pod in *Trans. Linn. Soc.*, iii, t. 68.

Through the kindness of Kew I have a specimen of the type, which is figured at Plate ii. As it has not been figured in the Iconography, a figure of a spike, Edgecumbe Bay, *Dallachy*, has been added.

It has often been confused with *A. Solandri* in collections; see that species for some notes.

40. *Solandri* Benth. in *B. Fl.*, ii, 406. The type is from Bay of Inlets, *Banks and Solander* (*Herb. R. Br.*), and I have received from the British Museum a fragment of the type with the reference—" *Mimosa salicifolia* Sol., Bay of Inlets, Banks and Solander, 1770." It is not figured in *Botany, Cook's Voyage*, nor in Iconography. The pod although described in 1893 by Mueller (see below), has not been previously figured, and I figure it. Note the very great length of the rhachis.

Besides the type, I have it from Port Denison (collector of Mueller, probably Frau Dietrich), *Macleay Mem. Vol.*, p. 225; (Port Denison and Edgecumbe Bay are identical localities), and also from Percy Islands (Henry Tryon through C. T. White). Yeppoon, near Rockhampton (J. L. Boorman), where it is a small tree with stem 6-12 inches in diameter, with hard, flaky bark, timber dark-coloured in centre.

The *A. julifera* (?) or *A. Solandri* (?) of R. H. Cambage at p. 420, near Normanton (No. 4,109), young pods only available, is probably *A. leptocarpa* A. Cunn., but that species is very near *A. Solandri*, as has already been indicated.

Dallachy collected both species at Edgecumbe Bay. The spike of *A. Solandri* is thin and much interrupted, while that of *A. julifera* is not (the structure of the individual flowers is very different). I have already compared the pods of the two species.



There are some notes on *A. julifera* and *A. Solandri* (together with other species) in *Macleay Mem. Vol.*, p. 225.

"*A. julifera*. . . . from which it differs . . . . and *A. leptocarpa*, by smaller spikes and different cleft calyces; but the fruit specimens from Edgecombe Bay, alluded to by Bentham, may not perhaps belong to the same species, as they are nearer to *A. Cunninghamii* also as regards foliage.

"Mr. Bowman gives the height of *A. julifera* as only up to 10 feet at Nercool Creek (near Rockhampton, J.H.M.) and the Upper Flinders River, and says it is early flowering in the season. It is contained in Madame (Frau) Dietrich's collection from Port Denison under 2,812, mixed with *A. Solandri*. That species agrees in venulation of the phyllodes certainly with *A. julifera*, but the phyllodes are narrower and straighter, the spikes longer, with remarkably dissite flowers like *A. aulacocarpa* and *A. cincinnata*; the calyces are short-lobed and glabrous, the fruit (of *A. Solandri*, J.H.M.) curled-flexuous, compressed, about  $\frac{1}{6}$  inch broad, the seeds ellipsoid, the funicle forms folds, but reaches the lowest part of the seeds only."

This is the first time the pods and seeds have been described.

41. *leptostachya* Benth. in B. Fl., ii, 406, with a mark of interrogation. He quotes it from Newcastle Range, *Mueller*; Port Denison, *Dallachy* and *Fitzalan*; Broad Sound *Herb. Mueller*.

The pod was unknown to Bentham, but *Mueller* subsequently figured it in the *Iconography*.

I have it from Normanton (E. Macdonell, through C. T. White) and Yeppoon, near Rockhampton (J. L. Boorman), wood dark brown, hard and heavy.

Cambage, p. 401, quotes it from Almaden, 10 feet, (No. 3,893), with doubt, but this turns out to be a new species, *A. argentea*.

#### 42. *A. argentea*, n. sp.

Frutex 10' altus, argyro-pubescent, ramulis angulatis deinde fere teretibus. Phyllodiis lanceolatis vix falcatis, basi apiceque angustatis, obtusis, 5-6.5 cm longis, 1-1.5 cm latis, rectis vel basin versus paullo



obliquis, coriaceis, tenuiter striatis, venis numerosis tenuibus parallelibus 2 vel 3 prominentioribus, basi glandula. Spica breviter pedunculata, gracile, circiter 1" longa, rhache glabra, floribus 5-meris. Calyce poculo simile formato, margine sinuato piloso. Petalis calycem plus duplo superantibus, glabris minus dimidio longitudinis cohaerentibus. Pistillo piloso. Legumine (maturo non viso) recto, lineari, 6 cm longo, 2-3 mm lato. Seminibus elliptico-oblongis, legumine longitudinaliter dispositis, funiculo planato.

A shrub of 10 feet, hoary or silvery white with a very minute pubescence; branchlets slender, angular at the tips, soon becoming nearly terete. Phyllodia lanceolate, hardly falcate, narrowed at each end, but obtuse, 5-6.5 cm. (say 2-2½ inches) long, 1-1.5 cm. (about ½ inch) broad, straight or slightly oblique at the base, coriaceous and finely striate, with numerous fine parallel nerves all equal or 2 or 3 rather more prominent; gland at base.

Spikes mostly in pairs, shortly pedunculate, slender, up to about an inch long, rhachis glabrous, flowers 5-merous. Calyx cup-shaped with a sinuous ragged edge, hairy, but not quite to the edge, less than half the length of the petals. Petals glabrous, united not quite half the way up. Pistil hairy. Pod not seen perfectly ripe, straight, linear, 6 cm. long and 2-3 mm. broad. Seed, not seen ripe, elliptical-oblong, longitudinally arranged in the pod, with a ribbon-like funicle hardly forming an arillus.

Collected at Almaden, North Queensland, 20th August, 1913. (R. H. Cambage, No. 3,893).

#### *Affinities.*

1. With *A. leptostachya* Benth. It is sharply separated by the moniliform pod of the latter, and apparently also by the funicle, but I have not seen seed of that species. The phyllodes of *A. leptostachya* are narrower, and the calyx less hairy.

While both species are imperfectly known, they are sufficiently distinct, although closely allied.

2. With *A. glaucescens* Willd. This is a large species confined to New South Wales, so far as we know at present. I have described it in Part 38 of my "*Forest Flora of N.S.W.*" with Plate 145. There is a good deal of similarity between *A. glaucescens* and the new species in regard to the floral structure, but the calyx is comparatively shallower and the petals hairy and not recurved in *A. glaucescens*.



In that species the pods are linear, as in *A. argentea*, but the pods are densely tomentose, while they are glabrous in the new species.

43. *leptocarpa* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 376. The type comes from "Endeavour River and Cape Flinders." Bentham, p. 407, quotes some North Queensland localities.

"*A. leptocarpa* is distinguished from *A. Maidenii* in the phyllodes showing hardly any anastomosing venulation, the interstices between the venules being also wider, in flowers less crowded along the rhachis, in glabrous calyces, in generally 5-parted corollas, and in numerous almost consolidated folds of the funicle, these forming downward, an appendicular mass of a length as great as the seed itself, or even greater, though basal only; I find, however, the fruit-valves to a considerable extent flexuous. The phyllodes are without lustre." (Mueller in *Macleay Memorial Volume*, p. 224).

Fibre is made by the aborigines of the Palmer River from the inner bark (Roth in *North Qld. Ethnography*, Bull. No. 1).

Cambage, p. 437, records it from Hughenden to Prairie. It is a shrub of 10 feet at Normanton. (R. H. Cambage, No. 4,109).

44. *polystachya* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 376. The type comes from "Port Bowen, Port Essington, Haggerstone's Island, East Coast."

Haggerstone's Island is near Cape Grenville, 12° S. Lat. I figure a specimen of the type. The broad, netted-veined pod is an important character in this species.

Bentham, p. 407, gives North Queensland localities.

45. *Hemsleyi* Maiden in *Proc. Roy. Soc. N.S.W.*, li, 87, 1917, with a plate. This is the species formerly recorded for Queensland under the name of *A. delibrata* A. Cunn., see p. 21.

It extends from North Western Australia to Northern Queensland, the Queensland localities recorded being Gregory Downs, Gregory River, near Burketown (Dr. T. L.



Bancroft) ; Dugald River, Granada (R. H. Cabbage, No. 4,165).

I have since found additional North Queensland specimens, which increase its range. The first is

“ On the banks of the Etheridge River at Georgetown ” (R. H. Cabbage, No. 3,898). Provisionally identified as *A. delibrata* A. Cunn. in *Proc. Roy. Soc. N.S.W.*, xlix, 420. Scantly in flower ; in young fruit.

The second is a specimen received from the Melbourne Herbarium (the late J. G. Luehmann, then Government Botanist), collected by the late J. Dallachy at the Herbert River, 1st August, 1863, and noted by him, “ grows 12 feet high, flowers yellow and sweet scented.” It is evidently a riparian species.

Judging from the specimens, it is a slender, graceful plant ; the two specimens just referred to have the phyllodes somewhat shorter and narrower than those of the type. They are 6 to 8 cm. (say  $2\frac{1}{2}$  to 3 inches) long, 4 to 5 mm. broad, thin and somewhat resinous, with a few distant, scattered hairs.

46. *plectocarpa* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 376. The co-types come from Cambridge Gulf (North West Australia), and Sims' Island, Northern Territory. Bailey, p. 511, follows Bentham in “ Islands of the Gulf of Carpentaria ” (*R. Brown*), but he is wrong in interpreting this as Queensland. The Queensland plants referred to this species which have been seen by me are the *A. plectocarpa* of the *Iconography*, which is *A. Hammondi* Maiden. *A. plectocarpa* is critically examined by me in *Proc. Roy. Soc. N.S.W.*, li, 90, (1917), with a plate.

Hitherto known only from North West Australia and the Northern Territory. I have received a specimen in flower belonging to this species from Dr. Eric Mjöberg, Coleman River, Cape York Peninsula, and thus we have an additional species for the Queensland flora.

47. *Armitii* (F.v.M.) Maiden (Syn. *A. delibrata* F.v.M., “ *Iconography of Acacias*,” non A. Cunn.).

Einasleigh River (Armit). See *Proc. Roy. Soc. N.S.W.*, li, 84 (1917).



48. *Hammondi* Maiden in *Proc. Roy. Soc. N.S.W.* li, 95 (1917) with a plate, = *A. plectocarpa* F.v.M. of *Iconography*, non *A. Cunn.*

Type from Northern Territory. Also found in Queensland. Etheridge River (Armit); Normanton, Cloncurry Road, a shrub of 8-10 feet (R. H. Cabbage, No. 3,935). Cabbage, p. 401, has Almaden; p. 416, Forsayth to Normanton; p. 428, Normanton to Cloncurry (all as *A. plectocarpa*).

Also Sweers Island (J. F. Bailey), as *A. lysiphylæa*.

49. *difficilis* Maiden in Ewart's *Flora of the Northern Territory*, with Plate.

In my contribution it is stated the following specimens from North Queensland have narrower phyllodes:

(a) Little River, 30 miles east of Croydon, North Queensland, 28th August, 1913. Flowers and fruits (R. H. Cabbage, No. 3,918).

(b) Also from a correspondent of Mr. Cabbage at Croydon. Phyllodes comparatively narrow. In flower and mixed with *A. torulosa* Benth., August, 1914 (R. H. Cabbage, No. 4,107, in part).

(c) About 15 feet high. On granite at 1,600 feet, Almaden, North Queensland, 18th and 20th August, 1913. Fruit only (R. H. Cabbage, Nos. 3,855 and 3,891).

50. *aulacocarpa* A. Cunn., Benth. in *Hook. Lond Journ. Bot.*, i, 378. The type of *A. aulacocarpa* comes from Port Bowen. (Syn. *A. crassicaarpa* A. Cunn., *op. cit.*, p. 379). Type of *A. crassicaarpa* from "North Coast" and Lizard Island. See Bentham, *Trans. Linn. Soc.*, xxx, tab. 68, for a figure of a fruit of *A. crassicaarpa*.

Mueller (*Fragm.* xi, 69) gives a number of localities for *A. crassicaarpa* (incorrectly spelt by him *crassocarpa*). He goes on to say that the distinctions between it and *A. aulacocarpa* do not appear to be clear; the species ought to be united, and the name *A. crassicaarpa* should be preferred to the other unfortunate one of *A. aulacocarpa*. The name



does not seem to be unfortunate (*infausto*), *aulax*, *aulacis*, in reference to the grooving of the sutures of the pods. In his *Second Census*, p. 80, Mueller, however, adopts *aulacocarpa*, and omits *crassicarpa*, which is technically correct, because, although they were described at the same time, *aulacocarpa* was described in an earlier page of the work to *crassicarpa*.

I have independently examined the evidence, and agree that *A. crassicarpa* A. Cunn. is a synonym.

As regards *A. aulacocarpa*, Mueller in *Macleay Memorial Vol.*, p. 224, suggests that a specimen from Fitzroy Island attributed to that species may = *A. holcocarpa*.

For an account of *A. aulacocarpa* see my *Forest Flora of N.S.W.*, Vol. 3, p. 123, with plate 103.

Under *A. crassicarpa*, Roth (*Bull. N. Qld. Ethnography*, No. 3) says the roots are roasted, hinterland and coast of Princess Charlotte Bay, Butcher's Hill, Cooktown. It is not figured in the *Iconography*, but *A. aulacocarpa* is.

Herewith is a figure of the type of *A. crassicarpa* (Plate vii). The pod "under 2 inches long and 7-8 lines broad" is an accident.

51. *calyculata* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 379. The type of *A. calyculata* comes from Fitzroy Island. (Syn. *A. holcocarpa* Benth., *B. Fl.*, ii, 408). Type of *A. holcocarpa* from "Port Bowen and Thirsty Sound, *R. Brown*."

After careful examination of available material, I am of opinion that *A. holcocarpa* should be suppressed, confirming a surmise of Mueller in 1893, which seems to have been forgotten. The description of *A. holcocarpa* would apply to *A. calyculata* with the exception of the reference to the branches as terete; they are, however, almost flat in the young stage in our specimens, as in *A. calyculata*.

The original description of *A. calyculata* states that it is allied to *A. aulacocarpa*, but Bentham (who edited the description) had not then seen the pod. In *B. Fl.*, ii, 410, he contrasts the two species, for he had in the meantime got authentically matched pods. The type of *A. calyculata* came from Fitzroy Island. It was collected by Allan



Cunningham (in Capt. P. P. King's Voyage) in June, 1819, and its number is 323.

It is figured (without pod) in "Botany of Cook's Voyage" (ed. Britten), t. 88. A portion of the type is figured at Plate vii. It is not figured in the *Iconography*.

Coming to *A. holcocarpa*, the pods and seeds described in B. Fl. ii, 408, are those later on figured by Mueller in the *Iconography*. The pods that I have seen are loose. An aboriginal equivalent for *A. holcocarpa* is given in *Bull. N. Qld. Ethnography*, No. 2 (Roth).

Following are Mueller's observations (abbreviated) on an imperfectly known species:—

"*A. holcocarpa*, which has the venulation of *A. glaucescens*, is easily distinguished from *A. Maidenii* in various respects. . . . Mr. Dallachy noted this species (*holcocarpa*) as dwarf, the fresh flowers as fragrant, and—strange to say—as white; so they must at all events be very pale; but Solander likewise indicated the flowers of *A. calyculata* as white, and thus the question arises whether perhaps the two species are identical." (Mueller, in *Macleay Memorial Volume*, Sydney, 1893, p. 224).

"Specimens, but in flower only, from Fitzroy Island (Walter), seem referable to *A. holcocarpa*, but they accord so far also fully with the description of Cunningham's plant from there; the fruit, sent with his flowering specimens, may really belong to the rather widely distributed *A. aulacocarpa*. Visitors to Fitzroy Island could easily solve this enigma. *A. holcocarpa* has become further known from Cape Sidmouth (C. Moon), Trinity Bay (W. Hill), Rockingham Bay and Hinchinbrook Island, where it is common (J. Dallachy). It seems to be essentially a plant of coastal regions." (Mueller, *loc. cit.*).

If collectors have solved the enigma to which Mueller refers, I have not heard of it.

Cabbage, p. 401, recorded the species from Almaden, and p. 416, Forsayth to Normanton.

52. *auriculæformis* A. Cunn., Benth, in *Hook. Lond. Journ. Bot.*, i, 377. The type comes from "Goulburn and Sims' Islands, North Coast," which are Northern Territory. It is not uncommon in the Northern Territory.

Bentham (B. Fl., ii, 411, the spelling is *auriculiformis*) quotes Albany Island (Hill and Mueller). He figures the pod at *Trans. Linn. Soc.*, xxx, t. 68.

Cabbage, p. 396, records it from Kuranda to Almaden.



## JULIFLORÆ (Dimidiatæ).

53. *holosericea* A. Cunn. in G. Don, *Gen. Syst.*, ii, 407.  
 "Native of New Holland within the tropic."

It is figured at t. 89 of the plants of Cook's Voyage (British Museum, Britten). Benth, p. 412, quotes North West Australia, Northern Territory, and North Queensland localities. He figures the pod at *Trans. Linn. Soc.*, xxx, t. 68. Roth, *N. Qld. Ethnography*, Bull. No. 3, says that the "fruit" is eaten by the natives of Cooktown and Cape Bedford.

I have it from Stannary Hills (Dr. T. L. Bancroft and R. G. Shearer). Cambage, pp. 401, 404, Almaden; p. 412, Almaden to Forsayth; p. 416, Forsayth to Normanton. I have it as far south as Rockhampton (A. Dietrich and R. H. Cambage).

A strictly glabrous form in fruit only, Gilbert River (E. W. Bick), communicated by Mr. C. T. White; may be called var. *glabrata* var. nov.

54. *Mangium* Willd. *Sp. Pl.*, iv, 1,053.

Quoted in *Fragm.*, xi, 35, 36. He suggests transit to a glabrous form of *A. holosericea*. He quotes his *Papuan Plants*, i, 103. Bailey records it at p. 513, without the references.

55. *cincinnata* F.v.M. in *Fragm.*, xi, 35. The type comes from Rockingham Bay and Gould Island. There is an important note on this species in *Macleay Memorial Vol.*, p. 225.

Cambage, p. 396, quotes Kuranda to Almaden. It comes as far south as Bribie Island (Dr. J. Shirley, C. T. White).

56. *humifusa* A. Cunn., Benth. in *Hook. Lond. Journ. Bot.*, i, 382. The type comes from "North Coast," Bauer; Cleveland Bay, *Cunningham*.

Benth, p. 412, quotes Northern Territory and North Queensland localities. I have it from Stannary Hills (Dr. T. L. Bancroft).

## BIPINNATÆ (Gummiferæ).

57. *Farnesiana* Willd. *Sp. Pl.*, iv, 1,083. A well known species, common in tropical and sub-tropical



Australia and in the tropics of the Old and New World (Benth.). It is an anomalous species.

Mueller, p. 147, gives "Intratropical Eastern Australia." Bentham, p. 419, gives a Northern Queensland locality (Port Denison). E. Palmer (*Proc. Roy. Soc. N.S.W.*, xvii, 94, 1883, gives the native name on Cloncurry, and says it occurs on all the Flinder plains. Cambage, pp. 428, 433, Normanton to Cloncurry; p. 436, Cloncurry to Hughenden; p. 437, Hughenden to Prairie; p. 438, Hughenden to Winton; p. 439, Winton to Longreach.

58. *Bidwilli* Benth. in *Linnæa*, xxvi, 629. I have a note on this species in the Northern Territory in a paper (see Bibliography, p. 21).

It extends in Queensland as far south as Eidsvold (Dr. T. L. Bancroft).

Bentham, p. 420, gives some Queensland localities. E. Palmer (*Proc. Roy. Soc. N.S.W.*, xvii, 93, 1883) gives the native name on the Cloncurry, says that it grows on the plains on the Flinders and Mitchell, and that "there are two varieties very much alike." Cambage, pp. 401, 404, has it from Almaden, and, p. 439, Winton to Longreach, doubtful.

59. *Sutherlandi* F.v.M. in *Fragm.*, vi, 22. The type comes from the Flinders River.

Bailey, p. 517, quotes southern slope of Newcastle Range, between Georgetown and Junction Creek, *R. C. Burton*. Cambage, p. 412, has Almaden to Forsayth; pp. 428, 433, Normanton to Cloncurry, (?) p. 437, Hughenden to Prairie. I have also seen it from Bowen Downs (correspondent of Mueller), and vicinity of Nicholson River, (?) in Queensland territory. (Lieut. Dittrich, through Mueller); also Woolgar (E. W. Bick).

60. *pallida* F.v.M. in *Journ. Linn. Soc.*, iii, 147 (partly). Recorded originally by Mueller from the Northern Territory. Bentham modified the description in *B. Fl.*, ii, 421. E. Palmer (*Proc. Roy. Soc. N.S.W.*, xvii, 94, 1883) recorded it from the Cloncurry River. Not in Bailey. I have not seen a specimen from Queensland.



*Tentative list of tropical Queensland species.*

<i>argentea</i>	<i>excelsa</i>	<i>oraria</i>
<i>Armitii</i>	<i>Farnesiana</i>	<i>Oswaldi</i>
<i>aulacocarpa</i>	<i>fasciculifera</i>	<i>pallida</i>
<i>auriculæformis</i>	<i>flavescens</i>	<i>phlebocarpa</i>
<i>Bancrofti</i>	<i>galioides</i>	<i>pityoides</i>
<i>Bidwilli</i>	<i>gonoclada</i>	<i>plectocarpa</i>
<i>brevifolia</i>	<i>Hammondi</i>	<i>polystachya</i>
<i>calyculata</i>	<i>harpophylla</i>	<i>purpureapetala</i>
<i>Cabbagei</i>	<i>hemignosta</i>	<i>Rothii</i>
<i>Chisholmi</i>	<i>Hemsleyi</i>	<i>salicina</i>
<i>cincinnata</i>	<i>hippuroides</i>	<i>sentis</i>
<i>complanata</i>	<i>holosericea</i>	<i>sericata</i>
<i>conferta</i>	<i>homalophylla</i> (?)	<i>Simsii</i>
<i>coriacea</i>	<i>homoclada</i>	<i>Solandri</i>
<i>curvinervia</i>	<i>humifusa</i>	<i>stenophylla</i>
<i>cyperophylla</i>	<i>julifera</i>	<i>Sutherlandi</i>
<i>decora</i>	<i>leptocarpa</i>	<i>torulosa</i>
<i>Dietrichiana</i>	<i>leptostachya</i>	<i>umbellata</i>
<i>difficilis</i>	<i>lysiphlea</i>	<i>Whitei</i>
<i>doratoxylon</i>	<i>macradenia</i>	<i>Wickhami</i>
<i>drepanocarpa</i>	<i>Mangium</i>	

making 62 species at present.

*Species proved, for the first time, to belong to Queensland.*

<i>phlebocarpa</i>	<i>plectocarpa</i>	<i>Wickhami</i>
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*New Species.*

<i>argentea</i>	<i>curvinervia</i>	<i>Whitei</i>
<i>Bancrofti</i>	<i>holosericea</i> var. <i>glabrata</i> (new variety)	

*Species proposed to be removed from the flora of Queensland,  
unless satisfactory evidence is forthcoming.*

<i>Bynoeana</i>	<i>gonocarpa</i>	<i>spondylophylla</i>
<i>conspersa</i>	<i>impressa</i>	<i>stipuligera</i>
<i>delibrata</i>	<i>juncifolia</i>	<i>subternata</i>
<i>dimidiata</i>	<i>latifolia</i>	<i>translucens</i>
<i>dineura</i>	<i>linarioides</i>	<i>trineura</i>
		<i>xylocarpa</i>

*Tropical Queensland Species, systematically arranged.*

PUNGENTES (Plurinerves)—	UNINERVES (Angustifoliæ)—
<i>phlebocarpa</i>	<i>sentis</i>
BRUNIOIDEÆ—	<i>fasciculifera</i>
<i>galioides</i>	UNINERVES (Racemosæ)—
<i>hippuroides</i>	<i>macradenia</i>
<i>conferta</i>	<i>Bancrofti</i>
UNINERVES (Brevifoliæ)—	<i>salicina</i>
<i>purpureapetala</i>	<i>Dietrichiana</i>
	<i>decora</i>



## PLURINERVES (Oligoneuræ)—

*Simsii*

## PLURINERVES (Microneura)—

*homalophylla**Cambagei**Oswaldi**coriacea**stenophylla*

## PLURINERVES (Nervosæ)—

*hemignosta**harpophylla**excelsa**complanata**homoclada*

## PLURINERVES (Dimidiatæ)—

*Rothii**sericata**flavescens**oraria*

## JULIFLORÆ (Rigidulæ)—

*Wickhami**lysiplœa**Chisholmi**umbellata**brevifolia**curvinervia**gonoclada*

## JULIFLORÆ (Tetrameræ)

*Whitei*

## JULIFLORÆ (Stenophyllæ)—

*cyperophylla**pityoides**drepanocarpa*

## JULIFLORÆ (Falcataæ)—

*doratoxylon**torulosa**julifera**Solandri**leptostachya**argentea**leptocarpa**polystachya**Hemsleyi**plectocarpa**Armitii**Hammondi**aulacocarpa**calyculata**auriculæformis*

## JULIFLORÆ (Dimidiatæ)—

*holosericea**Mangium**cinnamata**humifusa*

## BIPINNATÆ (Gummiferæ)—

*Farnesiana**Bidwilli**Sutherlandi**pallida*

*Illustrations.*—The drawings I submit include a number of old types, never before figured, which I have received through the kindness of Kew (Sir David Prain, F.R.S.), and British Museum, Natural History (Dr. A. B. Rendle, F.R.S.).

An important reason why figures of some of our types should be published is because some are so fragmentary, and have been so frequently sub-divided, and the history has, in some cases, become so obscure, that it is desirable to fix our facts in regard to them before they disappear altogether, as some species appear to have done already.

I am indebted to Mr. W. F. Blakely and Miss Flockton, National Herbarium, Sydney, for much valuable assistance, and to Mr. C. T. White for a number of Queensland specimens, and some references.



PLATE 1.

*Acacia brevifolia* Benth.

1. Twig, showing spike.
2. 3. Individual flower (two views).
4. Pistil.

[All from the type, "Desert of the Suttor" Queensland, Mueller.]

*Acacia curvinervia*, n. sp.

5. Twig, showing spike.
6. Upper portion of phyllode, showing deciduous tip.
7. Flower and floral bract.
8. Pistil.

[All from the type, Beta, Queensland, J. L. Boorman].



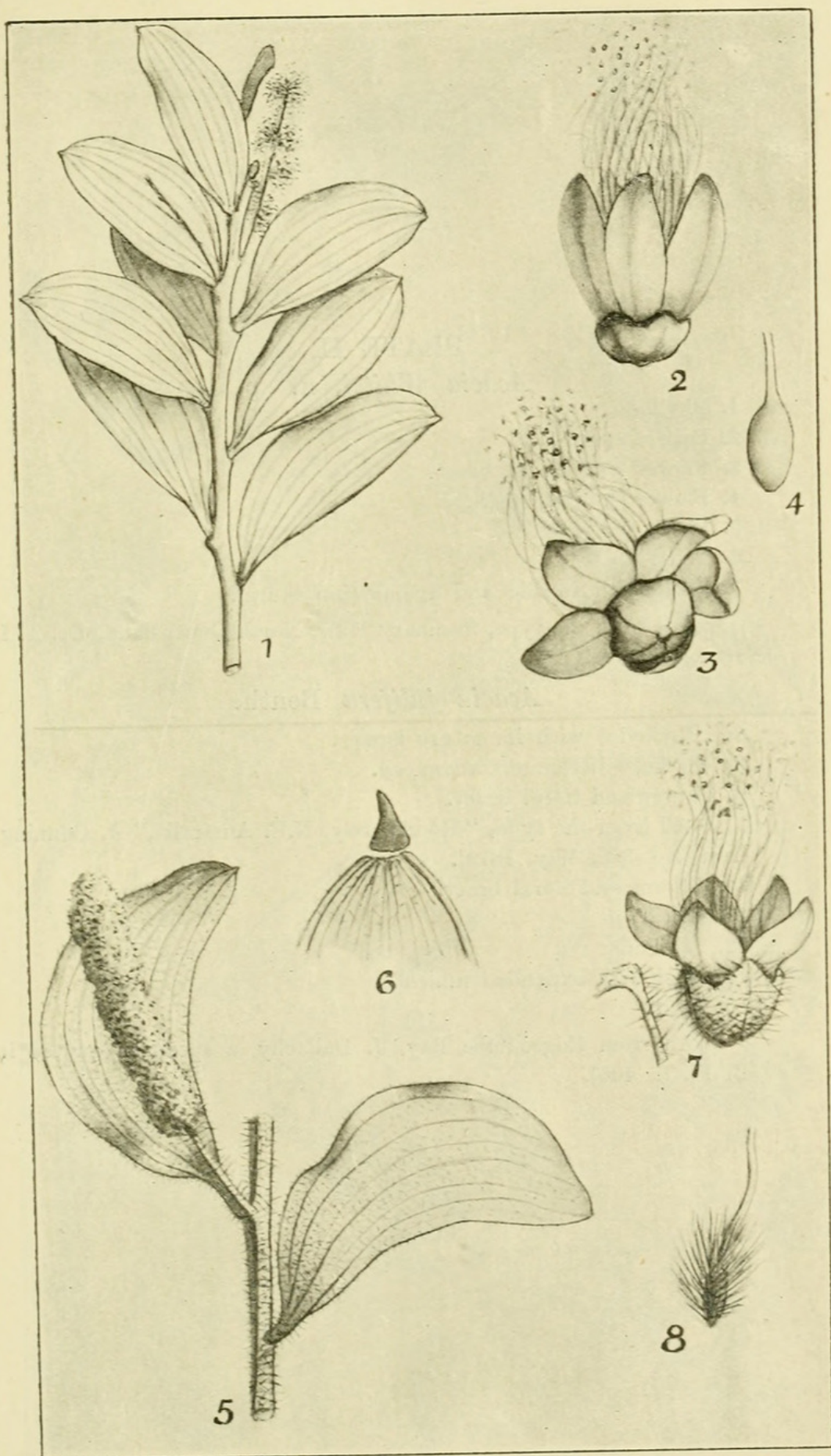




PLATE II.

*Acacia Whitei*, n. sp.

1. Phyllode.
2. Pair of spikes.
3. Flower and floral bract.
4. Flower showing pistil.
5. Pistil.
6. Pods.
7. Seed, with funicle and arillus (immature).

[All from the type, Stannary Hills, North Queensland, Dr. T. L. Bancroft].

*Acacia julifera* Benth.

- 8a. Phyllodes with immature spikes.
- 8b. Spike, a little more advanced.
9. Flower and floral bract.

[All from the type, "Rodd's Bay, N.E. Australia," A. Cunningham, No. 325, May, 1819].

10. Flower and floral bract.
11. Pistil.
12. 13. Pods.
14. Seed with expanded funicle.
15. Seed.

[All from Edgecumbe Bay, J. Dallachy, a specimen quoted in B. Fl. ii, 406].



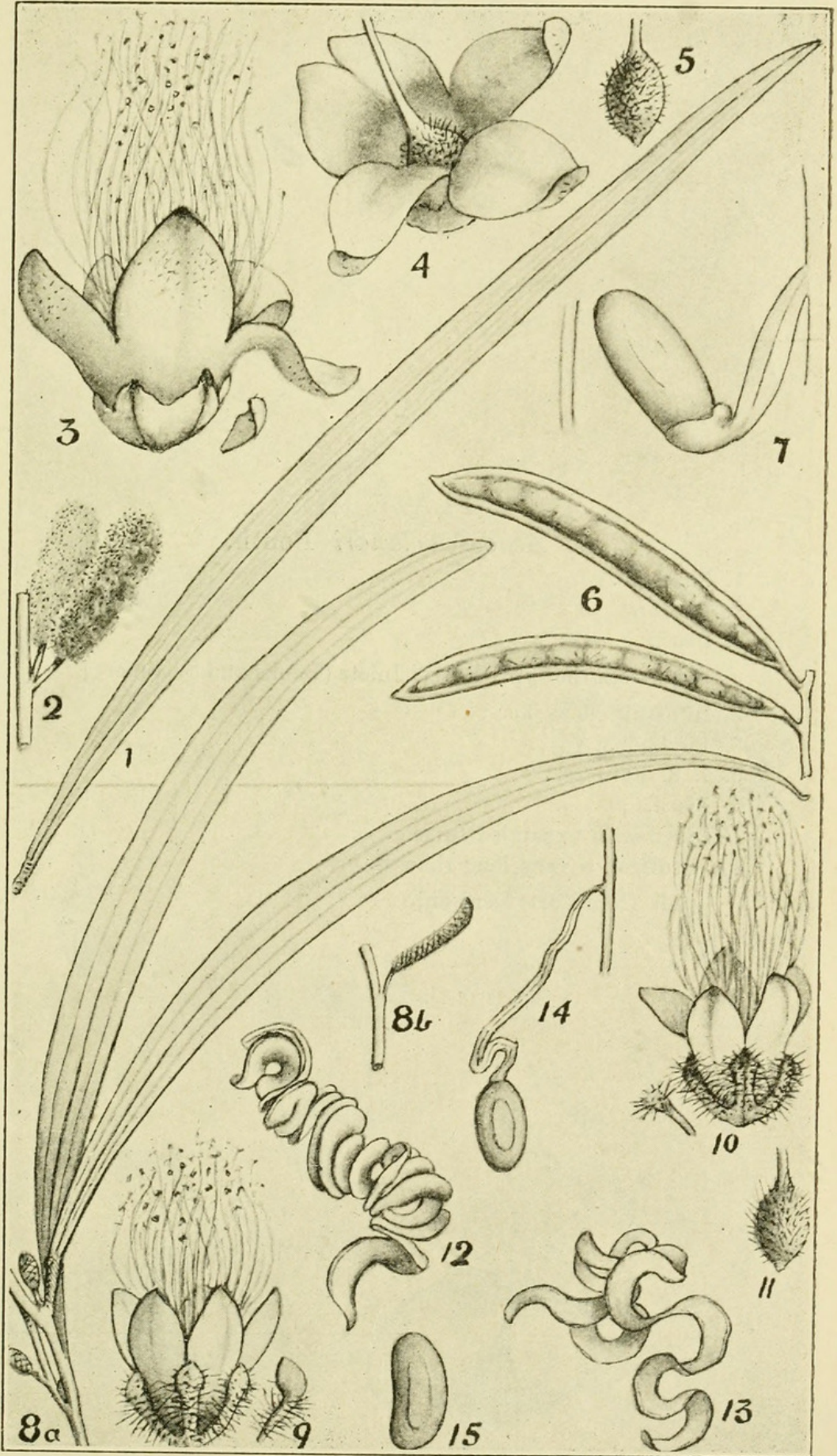




PLATE III.  
*Acacia Solandri* Benth.

1. Phyllode.
3. Flower.
4. Pistil.

[All from the type, Bay of Inlets (Banks and Solander)].

2. Interrupted spike.
5. Phyllode.
6. 7. 8. Flowers.
9. Pistil.
10. Seed with expanded funicle.
11. Fruit on a very long rhachis.

[All from Port Denison].



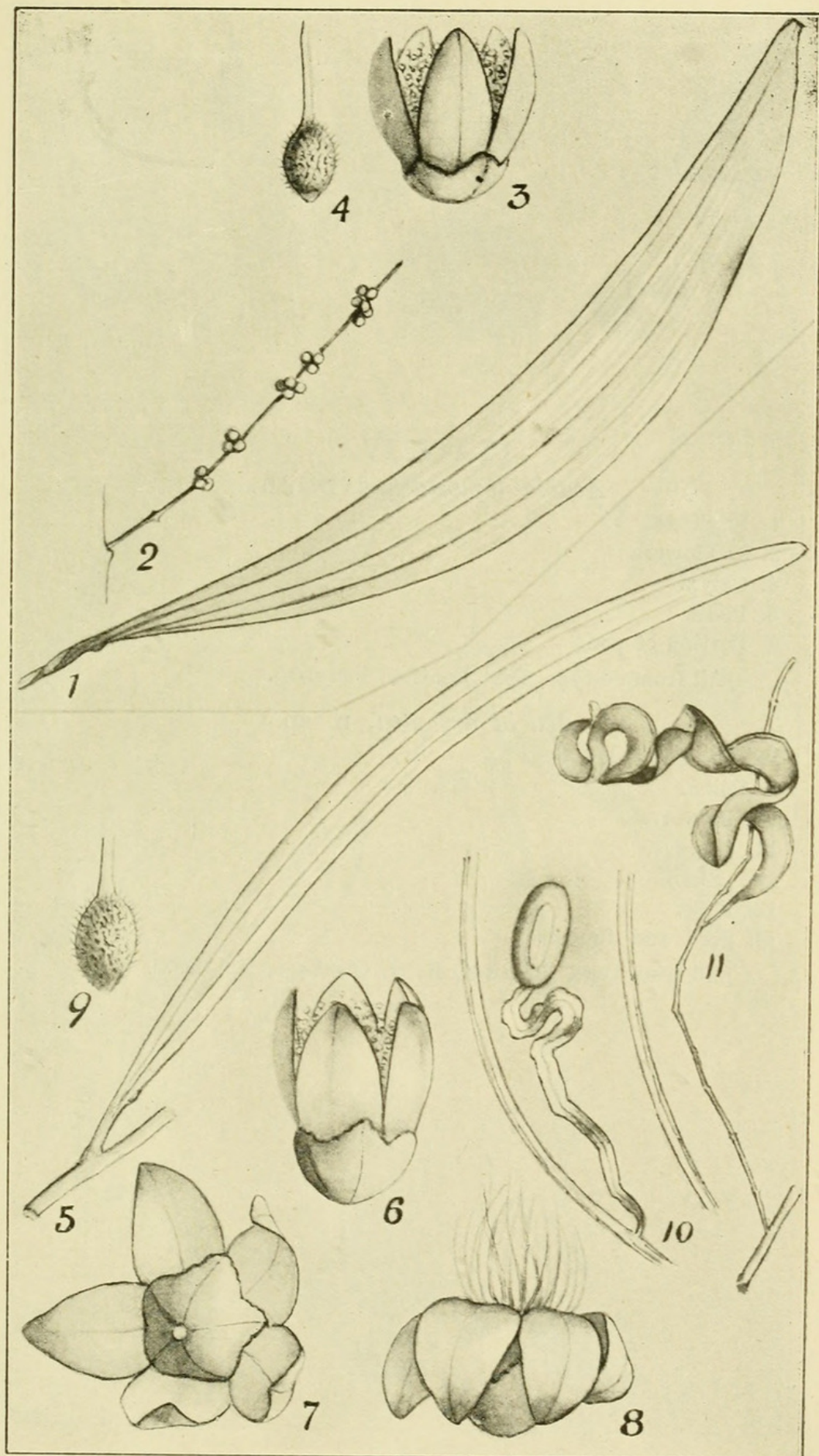




PLATE IV.

*Acacia leptostachya* Benth.

1. Phyllode.
2. 3. Flowers.
4. Calyx.
5. Pistil.
6. Portion of pod.

[All from co-type, Port Denison, Fitzalan].

*Acacia argentea*, n. sp.

- 8a. 8b. Phyllodes.
9. Spike.
10. Flower.
11. Calyx.
12. Pistil.
13. Pods.
14. Seed and funicle.

[All from type, Almaden, R. H. Cambage, No. 3893].



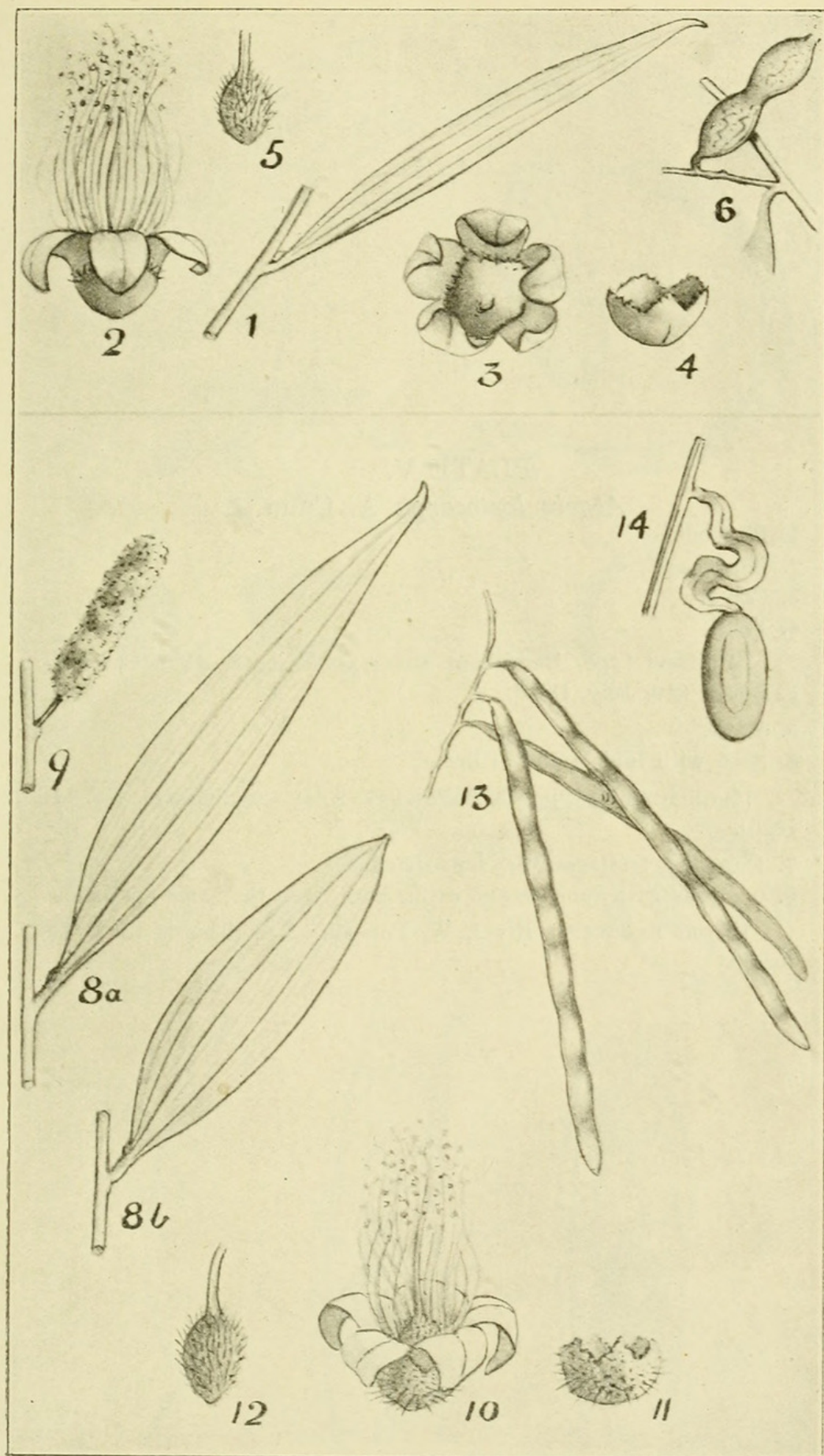




PLATE V.

*Acacia leptocarpa* A. Cunn.

1. Phyllode.
2. Flower.
3. Calyx.
4. Pistil.

[All from type, Endeavour River, Queensland, Allan Cunningham, No. 319, July, 1819].

5. Fruit.
6. Seed with funicle and arillus.

[Both from co-type, Cape Flinders, Allan Cunningham, No. 118 1820].

7. Immature fruits, on very long rhachis.
8. 9. Seeds with funicles and arilli, both from the same specimen.

[From Endeavour River, W. Persieh. N.B. This is the type locality].



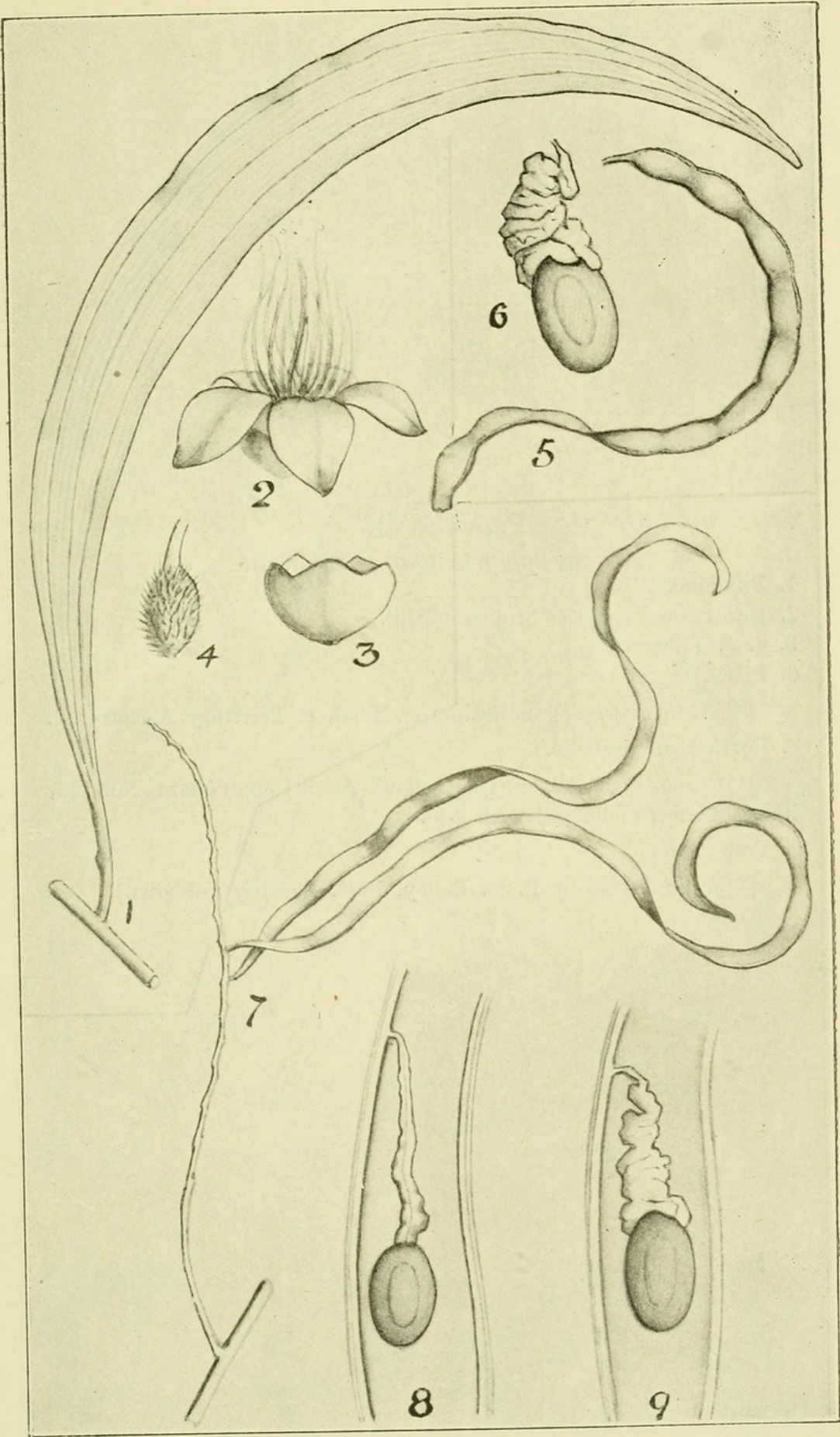




PLATE VI.

*Acacia polystachya* A. Cunn.

1. Phyllode.
2. Interrupted spike (? broken at tip).
3. 4. 5. Flowers.
6. Pistil.

[All from co-type, Port Essington. Northern Territory, Armstrong].

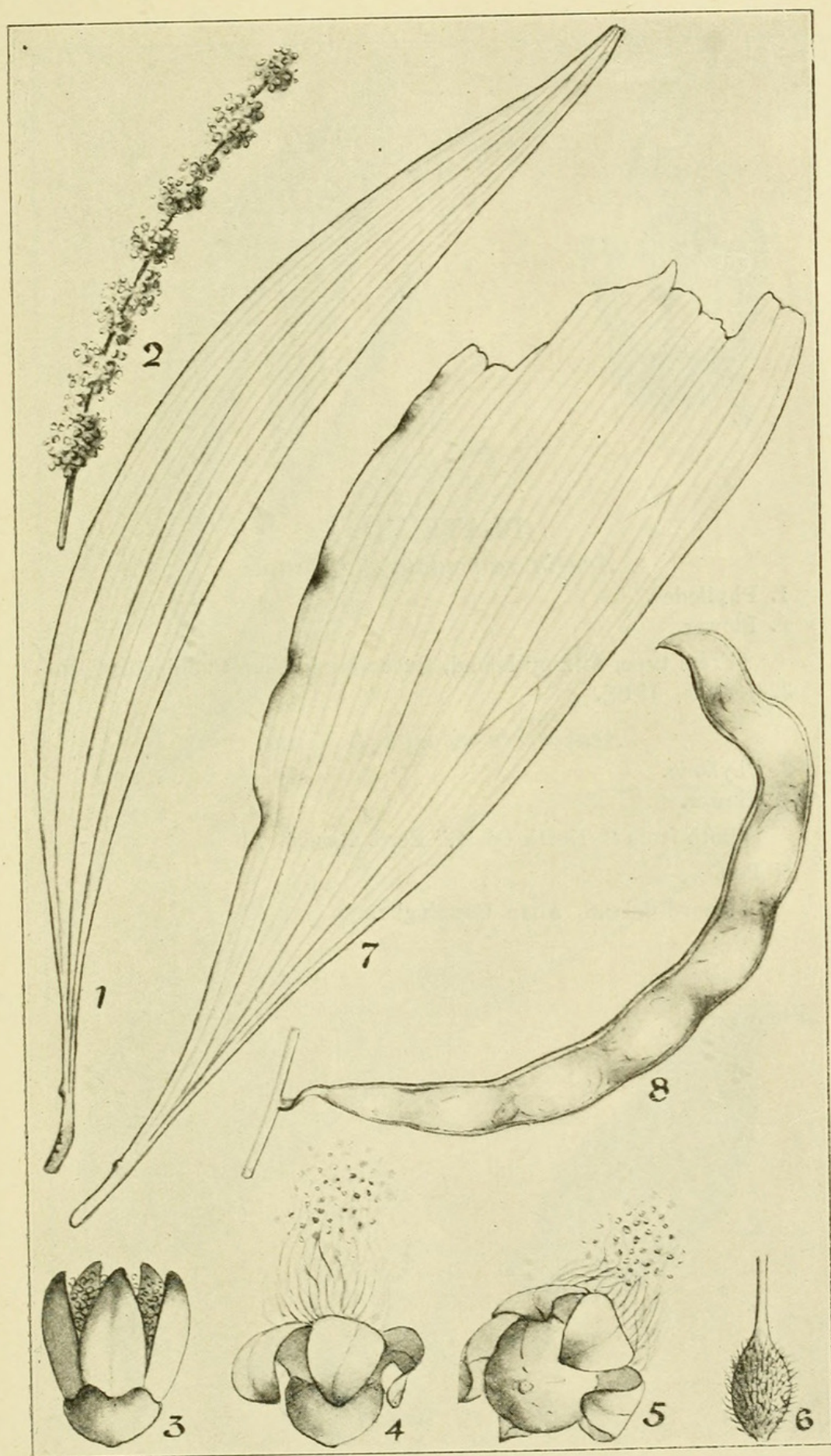
7. Portion of phyllode.

[Co-type, Port Bowen, Queensland, Allan Cunningham, No. 123, 1820. Flowers identical with 3-5].

8. Pod.

[Communicated by F. M. Bailey, 1904, Locality unknown].









Maiden, J. H. 1918. "The Tropical Acacias of Queensland. (With Descriptions of New Species.)." *The Proceedings of the Royal Society of Queensland* 30, 18–52.  
<https://doi.org/10.5962/p.351437>.

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