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**PLINTHANTHESIS AND DANTHONIA AND A REVIEW
OF THE AUSTRALIAN SPECIES OF LEPTOCHLOA
(GRAMINEAE)**

By S. T. BLAKE
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SUMMARY

The acceptance of genera segregated from *Danthonia* requires the acceptance of *Monachather* Steud. (*M. paradoxa* Steud. = *Danthonia bipartita* F. Muell.) and *Plinthanthesis* Steud. (*P. rodwayi* (C. E. Hubbard) comb. nov., *P. paradoxa* (R.Br.) comb. nov. and *P. urvillei* Steud. = *Danthonia vickeryi* (C. E. Hubbard). *P. tenuior* Steud. becomes *Notodanthonia tenuior* (Steud.) comb. nov. (= *Danthonia purpurascens* J. Vickery). The segregated genera are distinguished by means of a key.

Four native species of *Leptochloa* and one hitherto unreported naturalized species (*L. filiformis* (Lamk.) Beauv.) are distinguished in a key. *L. divaricatissima* is described as new, *L. ciliolata* (Jedw.) S. T. Blake is a new combination (*Eragrostis ciliolata* Jedw.), *L. asthenes* (R. & S.) C. E. Hubbard is a new synonym and *L. debilis* Stapf ex C. E. Hubbard is a nomenclatural synonym of *Poa imbecilla* Forst. from New Zealand.

INTRODUCTION

The first part of this paper is a consideration of the generic status of the Australian taxa that have been included in *Danthonia*, a key to accepted genera and a review of the species of *Plinthanthesis*. The second part is a review of the species of *Leptochloa* in Australia that arose from attempts to distinguish the species and to establish the correct names for them. It is based chiefly on an examination of types and the material in the Queensland Herbarium and the National Herbarium of New South Wales but other collections should be examined before a full revision is presented.

DANTHONIA AND ITS ALLIES

In Contr. N.S.W. Nat. Herb. 2:249–325 (1956) J. W. Vickery gave an excellent account of the Australian species usually referred to *Danthonia*. On p. 323 she stated that she had not been able to establish the identity of *Plinthanthesis urvillei* Steud. from the Blue Mountains and *P. tenuior* Steud. from Port Jackson, species on which Steudel based his new genus *Plinthanthesis*, but that the descriptions suggested *Danthonia* rather than any other genus.

In N. Zeal. J. Bot. 1: 78–136 (1963) Zotov reviewed the New Zealand species referred to *Danthonia* and from anatomical characters and the shape of the hilum he came to the conclusion that none of the species he examined (including some from Australia) rightfully belonged in this genus. He described the genera *Notodanthonia*, *Chionochoa*, *Erythranthera* and *Pyrhanthera*.

In connection with the preparation of a key to all genera of grasses in Australia I examined all available species in the light of Zotov's classification. My examination was almost restricted to structural details of the spikelet and although I believe that

Zotov greatly exaggerated the differences in the shape of the hilum I think that the Australasian species are sufficiently distinct from those of Europe and North America to be excluded from *Danthonia* and that they differ among themselves so much that not only should Zotov's genera be accepted but that two more should be admitted for Australian groups, namely *Monachather* Steud. and *Danthonia* sect. *Micrathera* Benth. Most of the Australian species can be referred to *Notodanthonia*, but the interpretation of the much earlier name *Plinthanthesis* now became critical. Through the courtesy of Prof. A. Pitot of the University of Caen, France, I have had the loan of the types.

More than one botanist has severely criticized Steudel's often unsatisfactory or misleading descriptions. In the case of *Plinthanthesis* he transposed the accounts of lemma ("valvula inferior") and palea ("valvula superior"). He described the awn as being laterally inserted on the "valvula superior" and twice as long as this (though in the descriptions of each species it is merely said to exceed this) while in fact the awn is terminal between two lobes of the lemma as in all species referred to *Danthonia* and shorter than the lemma with its lobes. Steudel also described the grain ("achaeonium") as triquetrous, but the specimens are in flower only, without any sign of grain. He placed it in the Phalarideae (in which he included genera of the Maydeae) after *Hierochloe* at the end of a series of genera stated to have subparallel sessile hermaphrodite "flowers" (florets) and the intermediate one shortly pedicellate. Neither this nor the generic character of *Plinthanthesis* can be reconciled with the description of Phalarideae on an earlier page; "hermaphrodite" should refer to the "intermediate" floret, not to the "sessile" ones which are male or neuter.

The specimens however are in good condition and there is no doubt as to the species they represent (Figs. 2, 3). The type of *P. tenuior* (Fig. 3) is a specimen of *Danthonia purpurascens* J. Vickery which is referable to *Notodanthonia* and that of *P. urvillei* (Fig. 2) is a specimen of *Danthonia vickeryi* C. E. Hubbard which belongs to a small group of species for one of which *Danthonia* sect. *Micrathera* was described and which differs as much from both *Danthonia* and *Notodanthonia* as these differ from one another. In the generic description Steudel stated that the florets slightly exceeded the glumes and this was repeated in the description of *P. urvillei* and is true for at least some spikelets on the specimen, while the glumes of *P. tenuior* were said to exceed the florets which is also true for the specimen, the awns being ignored in both cases. There is nothing else in the generic description that does not agree with both specific descriptions or which applies to one specimen more than the other. Hence the generic description agrees better with *P. urvillei* and this should be selected as the lectotype of the genus. It follows from this choice that the nomenclatural status of *Notodanthonia* is undisturbed and that a legitimate generic name is available for the taxon *Danthonia* sect. *Micrathera*.

The name is spelt *Plinthanthesis* in the protologue published in Dec. 1853 but *Plintanthesis* in the index published in Nov. 1854 and on the labels in Steudel's writing. It may be argued that the spelling in the protologue was an "unintentional orthographic error" (ICBN Art. 73) corrected in the index without comment but other explanations are possible and in a work with so many mistakes it is best to

accept the spelling in the protologue. The derivation of the name was not given but it may be a contraction from a combination of *πλινθος* (*plinthos*), "plinth", "pedestal of a column" (referring to the awn), and *αντιθεσις* (*antithesis*), "antithesis", "direct opposite" which would accord with Steudel's statement that the genus is very distinct because of the lateral position of the awn—"Genus *aristis* lateraliter valvulae insertis distinctissimum."

Steudel mentioned that there was a specimen of a third species in hb. d'Urville with glumes awned from the tip but that the specimen was so incomplete that it was not possible to make a diagnosis. A third sheet from Caen may be this with three pieces each with only the uppermost node and inflorescences. The inflorescences closely resemble that on the type of *P. tenuior* and the four pieces are certainly conspecific.

Specimens of *Plinthanthesis* acquire a characteristic brown colour on drying; other characters are given below in the key to genera. The species are as follows.

***Plinthanthesis* Steud. Syn. Pl. Glum. 1:14 (1854).**

Lectotype: *P. urvillei* Steud.

1. *Plinthanthesis rodwayi* (C. E. Hubbard) S. T. Blake, comb. nov.

Danthonia rodwayi C. E. Hubbard, Ic. Pl. t. 3439 (1943); J. Vickery, Contr. N.S.W. Nat. Herb. 2: 269, Fig. 2 (1956).

2. *Plinthanthesis paradoxa* (R.Br.) S. T. Blake, comb. nov.

Danthonia paradoxa R.Br. Prodr. 177 (1810); C. E. Hubbard, Ic. Pl. sub t. 3439 (1943); J. Vickery, op. cit.: 270, Fig. 3 (1956).

3. *Plinthanthesis urvillei* Steud. Syn. Pl. Glum. 1:14 (1854).

Danthonia vickeryi C. E. Hubbard, Ic. Pl. sub t. 3439 (1943); J. Vickery, op. cit.: 271, Fig. 4 (1956).

To be excluded from the genus is:

***Notodanthonia tenuior* (Steud.) S. T. Blake, comb. nov.**

Plinthanthesis tenuior Steud. Syn. Pl. Glum. 1: 14 (1854).

Danthonia purpurascens J. Vickery, Contr. N.S.W. Nat. Herb. 1: 301 (1950), op. cit. 2: 293, Fig. 18 (1956).

Monachather Steud. Syn. Pl. Glum. 1: 247 (1854) should also be treated as generically distinct with a single species, *M. paradoxa* Steud. loc. cit. (*Danthonia bipartita* F. Muell. Fragm. Phyt. Aust. 1: 160 (1859), J. Vickery, Contr. N.S.W. Nat. Herb. 2: 268, Fig. 1 (1956) non *D. paradoxa* R.Br. (1810)). The spikelets have relatively long internodes and the florets have a short callus as in *Plinthanthesis*, but the subglobose or broadly turbinate indurated body of the lemma, subquadrate

grain with the small oblong-elliptic hilum in a depression and the thickened woolly base of the plant set it apart from all other species that have been referred to *Danthonia*.

Erythranthera Zotov, N. Zeal. J. Bot. 1: 124 (1963) comprises two species of small alpine grasses from New Zealand with small minutely or even obscurely 3-toothed unawned lemmas with overlapping margins and a glabrous callus, glabrous lodicules, and grain with a short narrowly elliptic hilum. The type species, *E. australis* (Petrie) Zotov, was first described as a species of *Atropis* and later transferred to *Triodia* and then to *Danthonia*. According to Zotov this species occurs in Australia but I have only seen specimens from New Zealand kindly sent by Dr. Zotov.

Danthonia and the genera segregated from it that occur in Australia may be distinguished and briefly characterized by the following key, illustrated by Fig. 1.

Hilum linear, "long", $\frac{1}{3}$ – $\frac{1}{2}$ as long as the grain:

Lodicules long-ciliate, well-developed; grain narrowly obovate, hilum side furrowed below with the hilum in the furrow; glumes with a prominent midrib but with few short obscure or no lateral nerves; old basal leaf-sheaths persisting, \pm flattened, rigid *Chionochloa*

Lodicules glabrous, sometimes rudimentary; grain obovate or somewhat narrowly obovate, hilum side \pm concave below but not furrowed; old basal leaves not conspicuously flattened and rigid:

Rhachilla with internodes more than $\frac{1}{2}$ as long as the body of the lemma; callus short; palea far exceeding body of lemma; grain nearly cylindrical in the upper part, more compressed below; glumes with a prominent mid-nerve sometimes also with 1 or 2 pairs of short and faint lateral nerves; specimens drying brown *Plinthanthesis*

Rhachilla with internodes less than $\frac{1}{3}$ as long as the body of the lemma; callus \pm elongated; palea shorter than to shortly exceeding the body of the lemma; grain compressed throughout; specimens drying green, with more or less purple-tinged glumes:

Awn well-developed; not in Australia *Danthonia*

Awn and lateral lobes reduced to short points; naturalized in Australia *Sieglingia*

Hilum elliptic to oblong, "short", \pm $\frac{1}{3}$ – $\frac{1}{4}$ as long as the grain; glumes with mostly 5–11, rarely 3 or 13 nerves:

Lodicules ciliate; \pm grain plano-convex; internodes of rhachilla short, disarticulating obliquely; callus "long" *Notodanthonia*

Lodicules glabrous; grain \pm concavo-convex; internodes of rhachilla $\frac{1}{3}$ to more than $\frac{1}{2}$ as long as body of lemma, disarticulating transversely; callus "short", blunt; body of lemma with contiguous or overlapping margins:

Lemma very deeply lobed with the central awn about as long as the lateral lobes, with a zone of long hairs beneath the lobes and a hairy callus, the subglobose or broadly turbinate body much hardened; grain about as broad as long, subquadrate in outline, much thinner than wide with the embryo nearly as long and the hilum sunk in a depression; glumes 11–13-nerved; plant of arid and semi-arid areas with a thickened woolly base *Monachather*

Lemma emarginate with a minute central point, not hardened, glabrous at least on the callus; grain about $2\frac{1}{2}$ times as long as wide, nearly as thick as wide, the embryo rather less than $\frac{1}{2}$ as long, the hilum not sunk; glumes 5-nerved; small slender alpine plants without woolly bases *Erythranthera*

2. LEPTOCHLOA

The generic concept accepted here agrees with traditional use in Australia.

KEY TO SPECIES OF *LEPTOCHLOA* IN AUSTRALIA

Stout wiry grass mostly 1–2 m high with hard woody culms and subdigitate racemes; lemmas not hairy on lateral nerves or between these and margins; palea scabrous but not ciliate on keels

L. digitata

Slender to moderately stout grasses commonly much less than 1 m high with \pm compressible culms; main axis longer than the racemes; lemma and palea hairy on (lateral) nerves or between these and margins:

Annual grasses with inflorescences of very many (30–100 or more) racemes occupying about half or more of the entire culm:

Spikelets 1-flowered in comparatively short very numerous (commonly 50–100 or more) racemes on a very long axis; floret bearded at base, leaves stiff, glabrous *L. brownii*

Spikelets 3–4-flowered or 2-flowered with a third abortive floret in about 30–60 racemes up to about 8 cm long in inflorescences occupying about half the length of the culm; florets not bearded at the base; leaves flat, thin, \pm hairy, about 5–12 mm wide
L. filiformis

Perennial grasses with leaves less than 5 mm wide; racemes usually less than 30, rarely as many as 40, often less than 10 in inflorescences occupying less, often very much less than half the length of the culm; spikelets 3–8-flowered or 2-flowered with a rudiment of a third floret:

Racemes stiff, widely spreading; spikelets not or but little overlapping *L. divaricatissima*

Racemes not stiff, not widely spreading often spreading or drooping upwards; spikelets overlapping at least in the upper half of the racemes:

Leaves hairy; lemmas densely bearded along the margin with hairs 0.5–0.7 mm long and therefore wider than the width of the internerves *L. peacockii*

Leaves glabrous or nearly so; lemmas with hairs 0.4 mm long or less, shorter than the width of the internerves:

Lemmas 2–2.5 mm long, the lateral nerves about parallel for at least the middle third, the internerve 5–7 times as long as wide; racemes bearing spikelets almost or quite to the base *L. decipiens*

Lemmas 1.2–1.7 mm long, the lateral nerves curved nearly all along, the internerves 4–5 times as long as wide; racemes naked near the base
L. ciliolata

Leptochloa brownii C. E. Hubbard, Kew Bull, 1941: 26 (1941). Based on *Cynodon polystachyus*.

Cynodon polystachyus R.Br. Prodr. 187 (1810). Type: Northern Territory, "Carpentaria Island I" (= Maria Island, south-west corner of the Gulf of Carpentaria), R. Brown [6238].

Leptochloa polystachya (R.Br.) Benth. Fl. Aust. 7: 617 (1878), non Kunth (1829).

AUSTRALIA.—Widely distributed across northern Australia north of about lat. 20° S., mostly in seasonally wet places such as the margins of pools.

Leptochloa ciliolata (Jedw.) S. T. Blake, comb. nov.

Eragrostis ciliolata Jedw. Bot. Archiv Mez 5: 192 (1924). Type: New South Wales, Narrabri, Maiden (NSW 126590, isotype; BRI, fragment).

QUEENSLAND.—All coastal Districts and inland to Leichhardt, Burnett, Darling Downs and Maranoa Districts.

NEW SOUTH WALES.—Western Plains, North West Slopes, Central Western Slopes, Central Coast.

Bentham, Fl. Aust. 7: 643 (1878) identified a collection of this species with *Poa imbecilla* Forst. ex Spreng. (non R.Br.), treated it as a species of *Eragrostis* and made the combination *Eragrostis imbecilla* Benth. without any mention of the earlier *E. imbecilla* Steud. which is *Leptochloa decipiens*. *Poa imbecilla* Forst. ex Spreng. is a true *Poa* from New Zealand and this was recognized by Stapf when he proposed for the Australian species the name published as *Leptochloa debilis* Stapf ex C. E. Hubbard, Kew Bull. 1941: 26 (1941) with merely the citation “*Eragrostis imbecilla* Benth. Fl. Austral. 7, 643 (1878), quoad descr. et specim., non *Poa imbecilla* G. Forst. (1786),” but Stapf’s name is indirectly based on *Poa imbecilla*.

The specimen accepted as an isotype of *Eragrostis ciliolata* is from a plant that had produced numerous fascicles of short branches and some small weak inflorescences after having been grazed (Fig. 4). The label has the name of the locality stamped on it in large capitals with the name *Eragrostis tenella* written in. The hairs on the lemma and the membranous ligule described in the protologue suggested *Leptochloa*, the account of the habit agrees with this particular specimen and the correctly spelt names of the locality and collector suggest this collection of which Jedwabnick probably saw a duplicate at Berlin that has since been destroyed.

Leptochloa decipiens (R.Br.) Stapf ex Maiden, Agric. Gaz. N.S.W. 20: 307 (1909); Domin, Biblioth. Bot. Heft 85: 379 (1915); J. Vickery, Contr. N.S.W. Nat. Herb. 2: 84 (1953). Based on *Poa decipiens*.

Leptochloa decipiens (R.Br.) Druce, Rep. Bot. Soc. Exchange Club 1916: 632 (1917); Chase, Index Grass spp. 2: 346 (1962).

Poa decipiens R.Br. Prodr. 181 (1810). Type: Queensland, Keppel Bay, Aug. 1802, R. Brown [6271].

Poa imbecilla R.Br. Prodr. 181 (1810), non Forst. ex Spreng. (1807); Benth. Fl. Aust. 7: 617 (1878) in nota. Type: Queensland, Upper Head (= Charon Point), Broad Sound, 26 Sept. 1802, R. Brown [6270].

Poa asthenes R. & S. Syst. Veg. 2: 574 (1817). Based on *Poa imbecilla* R.Br. (“*imbecillis*”).

Eragrostis decipiens (R.Br.) Steud. Syn. Glum. 1: 279 (1854). Based on *Poa decipiens*.

Eragrostis imbecilla Steud. Syn. Glum. 1: 279 (1854). Based on *Poa imbecilla* R.Br.

Leptochloa asthenes (R. & S.) C. E. Hubbard, Kew Bull. 1941: 26 (1941). Based on *Poa asthenes*. Syn. nov.

QUEENSLAND.—All coastal Districts and inland to the Leichhardt, Burnett and Darling Downs Districts.

NEW SOUTH WALES.—North Coast.

The combination *Leptochloa decipiens* was first published by Maiden as given above. Domin cited as the place of publication a separate with independent paging issued as "Miscellaneous Publication, No. 1231" as one of the author's series on "Useful Australian Plants". Vickery, loc. cit., correctly cited the paper but I have found no other reference to this place of publication. The combination was later made independently by Druce and attributed to him in *Index kewensis* as well as by Chase, loc. cit. There are many errors and contradictions in Maiden's article, but there can be no doubt that Maiden published a name supplied by Stapf and that Stapf based his combination on *Poa decipiens* R.Br. Domin cited *Leptochloa chinensis* Nees in the synonymy; he stated that he did this on the authority of Stapf following Maiden, but there is a misunderstanding here. Bentham treated *Poa decipiens* as conspecific with *Leptochloa chinensis* Nees, a name based on *Poa chinensis* L. and his use of *L. chinensis* was therefore correct. This opinion was accepted by Pilger, *Natürl. Pfl.-fam.* ed. 2, 14d: 44 (1956). But it is clear that Stapf believed that *Poa decipiens* was distinct from the Asiatic-Malesian *P. chinensis* because he made the new combination. *Leptochloa chinensis* (L.) Nees is an annual grass with stouter softer culms, broader leaves with quite smooth broad compressed sheaths and much smaller lemmas.

The type collection of *P. decipiens* consists of fairly tall plants with 2-3-flowered spikelets and that of *P. imbecilla* of small slender plants with 3-6-flowered spikelets. Brown stated that the former had scabrous sheaths and the latter smooth sheaths but I cannot now verify this. Blake 12707 closely resembles the type of *P. imbecilla* with which it has been identified by Hubbard but the upper part of some sheaths is distinctly scabrid. Most of the material now referred to *L. decipiens* has 4-6-flowered spikelets but 3-flowered spikelets are frequent in a few collections; the lower part of the sheaths of at least the cauline leaves is nearly always smooth and in most cases the upper part is more or less conspicuously scabrid.

Leptochloa digitata (R.Br.) Domin, *Biblioth. Bot.* Heft 85: 379 (1915). Based on *Poa digitata* R.Br.

Poa digitata R.Br. *Prodr.* 182 (1810); non Michx. ex Spreng. (1801) pro syn., nomen invalidum. Type: Queensland, Upper Head (= Charon Point), Broad Sound, 26 Sept. 1802, R. Brown [6238].

Eleusine digitata (R.Br.) Spreng. *Syst. Veg. Cur. Post.* 36 (1827). Based on *Poa digitata*.

Leptochloa subdigitata Trin. ex Steud. *Syn. Pl. Glum.* 1: 210 (1854). Based on *Poa digitata*.

Eleusine polystachya F. Muell. *Fragm.* 1: 216 (1859). Type: Western Australia, banks of the Murchison R., Pemberton Walcott.

AUSTRALIA.—Widely spread in the drier parts of the mainland states.

Leptochloa divaricatissima S. T. Blake; species nova affinis *L. decipienti* (R.Br.) Stapf ex Maiden, sed inter species australianas ob spiculas in racemis (ramis paniculae) longis rigide divaricatis distantes facile dignoscenda. Typus: Queensland, Goondiwindi, Blake 10517 (BRI.131665-6, holotypus; isotypi NSW, K, aliiq. distribuendi).

Gramen perenne caespitosum viride. Culmi erecti usque ad 50 cm alti, graciles, 3-5-nodi, plerumque simplices. Foliorum vaginæ arcte convolutae superne carinatae omnino striatae laeves vel parce papillosae, glabrae vel ex papillis pilosae, inferiores internodiis plus minusve longiores superiores breviores; ligulae 1-1.8 mm longae, membranaceae fimbriatae; laminae anguste lineares sensim acutae, planiusculae vel saepius plus minusve involutae, omnino scabridae ceterum glabrae, plus minusve 3-6 cm longae, plus minusve 1.5-2.5 mm latae (explanatae). Inflorescentia exserta mox rigide divaricatissima plus minusve pyramidalis, plerumque 15-30 cm longa fere aequilata vel latior; axis communis elongatus filiformis inferne canaliculatus glaber sursum angulatus scaberulus; racemi saepissime numerosi mox divaricatissimi inferiores interdum subverticillati usque ad 20 cm longi, parte inferiore nudi; rhachis setacea in parte majore triquetra angulis scabridula, basi pulvinata parce pubescens. Spiculae distantes vel superiores contiguae vel leviter imbricatae, in pedicello appresso 0.75-2 mm longo sitae, anguste oblongae, 3-4 mm longae, plus minusve 0.8-1.1 mm latae, 3-5-florae; rhachilla glabra supra anthoecia conspicue producta, ejus internodia 0.7-1 mm longa. Glumae anguste obtusae minute mucronulatae carina scaberulae, supera quam infera sesquies usque duplo longior lemmate adjacente brevior. Anthoecia a latere visa anguste fere oblonga dorso recta, inferior 2-2.4 mm longa superiora paulo breviora, 0.4-0.5 mm lata summum interdum redactum. Lemma explanatum ambitu obtusissimum, plus minusve retusum, ob carinam prope basin ciliatam saepius minutissime excurrentem minute plus minusve apiculatum, nervis lateralibus infra apicem evanescentibus per majorem partem subparallelis internervio 6-7-plo longiore quam latiore, area marginali pilis circiter 0.3 mm longis latitudine internervii brevioribus ciliatum. Palea lemmate paulo brevior itidem ciliata. Antherae circiter 0.3 mm longae. Caryopsis elliptica 0.9 mm longa, 0.4 lata et crassa, fere teres; scutellum dimidiam caryopsin fere adaequans. Fig. 5.

QUEENSLAND.—Maranoa District: Warrie Stn., on banks of Moonie R., sandy soil, Apr. 1937, Roe A.2. Darling Downs District: NNW. of Bungunya, in brigalow-belah scrub on compact brown soil, \pm 210 m, July 1945, Blake 15870; Goondiwindi, depression in partly cleared Eucalyptus forest on mud, 210 m, Feb. 1936, Blake 10517; Jandowae, harvested with cotton, May 1956, comm. Manuell; 4 miles SSW. of Jandowae on road to Macalister, in depression in box-blue gum flat, grey clay loam, Mar. 1958, Johnson 410; Warra, Mar. 1909, Maiden; Jondaryan, grassland downs on dark grey clay, 375 m, Feb. 1935, Blake 7747.

L. divaricatissima is readily distinguished both in the herbarium and in the field by the broad inflorescence with stiff widely spreading branches.

Leptochloa filiformis (Lam.) Beauv. Ess. Agrost. 71, 161, 166 (1812); Hitchc. (rev. Chase) Man. Grasses U.S. ed. 2: 492, 891 (1951) with synonymy. Based on *Festuca filiformis* Lamk.

QUEENSLAND.—Wide Bay District: Booyal, Mar. 1967, *Howard*; Maryborough, bank of Mary R., Feb. 1959, *Pedwell*. Moreton District: Gatton, Apr. 1967, *Steel*; Teviotville, Feb. 1953, *Hutchings*.

Not previously reported from Australia.

Leptochloa peacockii (Maiden & Betche) Domin, Biblioth. Bot. Heft 85: 379 (1915). Based on *Diplachne peacockii*.

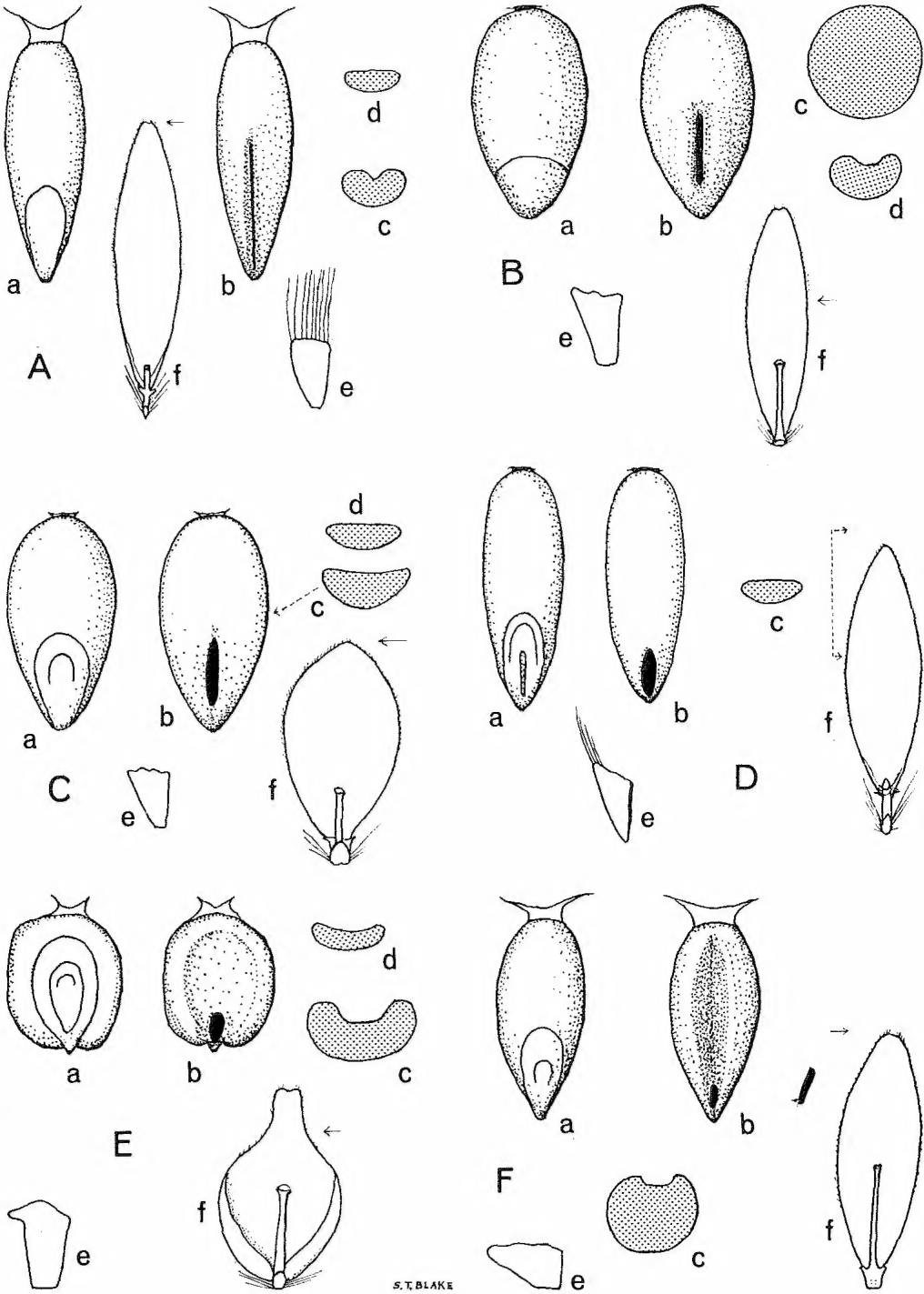
Diplachne peacockii Maiden & Betche, Agric. Gaz. N.S.W. 15: 925 with plate (1904). Type: New South Wales, Coolabah, Mar. 1904, *Maiden & Boorman* NSW 126631 (NSW).

QUEENSLAND.—South Kennedy, Mitchell, Leichhardt, Port Curtis, Burnett, Warrego, Maranoa, Darling Downs and (perhaps a casual in) Moreton Districts.

NEW SOUTH WALES.—Western Plains, North West Slopes.

The cultivated specimens referred to on p. 926 of the protologue and figured in Plate II belong to the American *Diplachne dubia* (H.B.K.) Scribn.

FIG. 1. Diagnostic characters of A, *Chionochloa*; B, *Plinthanthesis*; C, *Danthonia* (and *Sieglingia*); D, *Notodanthonia*; E, *Monachather*; F, *Erythranthera*. a, grain showing embryo; b, grain showing hilum; c, transverse section of grain at its widest part with hilum side above; d, another section at point shown; e, lodicule; f, internode of rhachilla with palea and callus with most hairs omitted if present, and the approximate height of the body of the lemma (base of sinus) shown by arrows. Figures not to scale and partly diagrammatic.



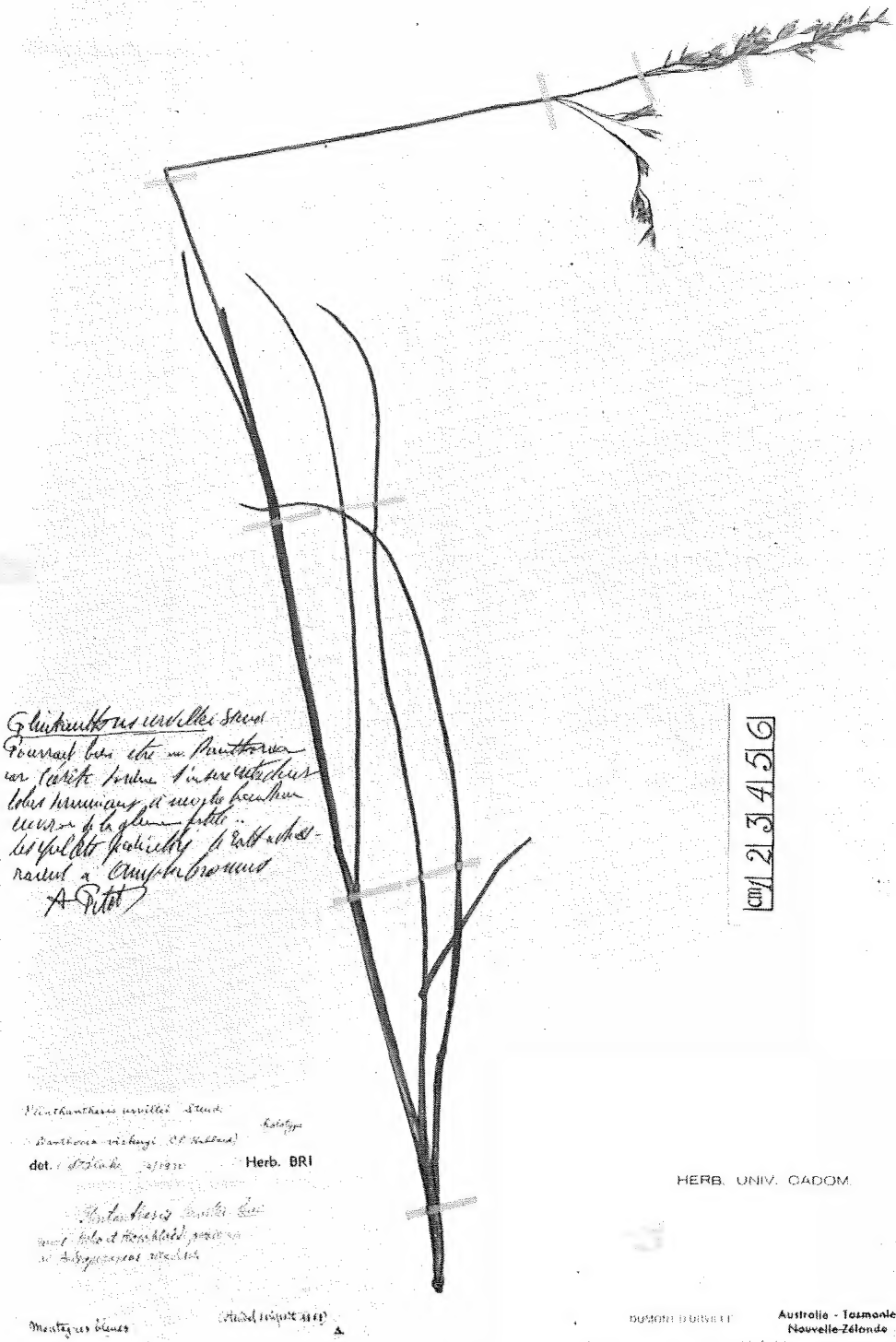


FIG. 2. Type of *Plinthanthesis urvillei*.

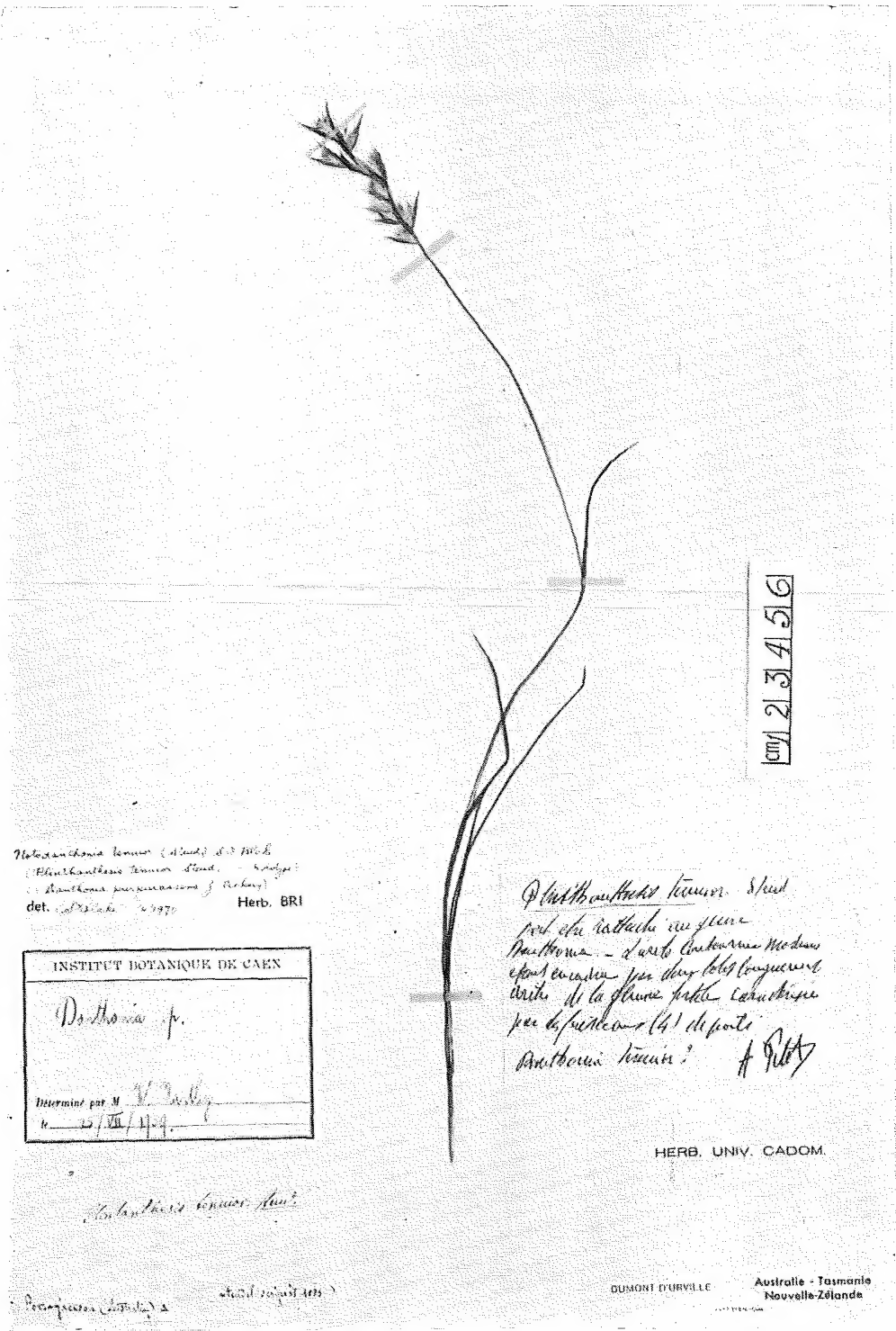


FIG. 3. Type of *Plinthanthesis tenuior* (= *Notodanthonia tenuior*).

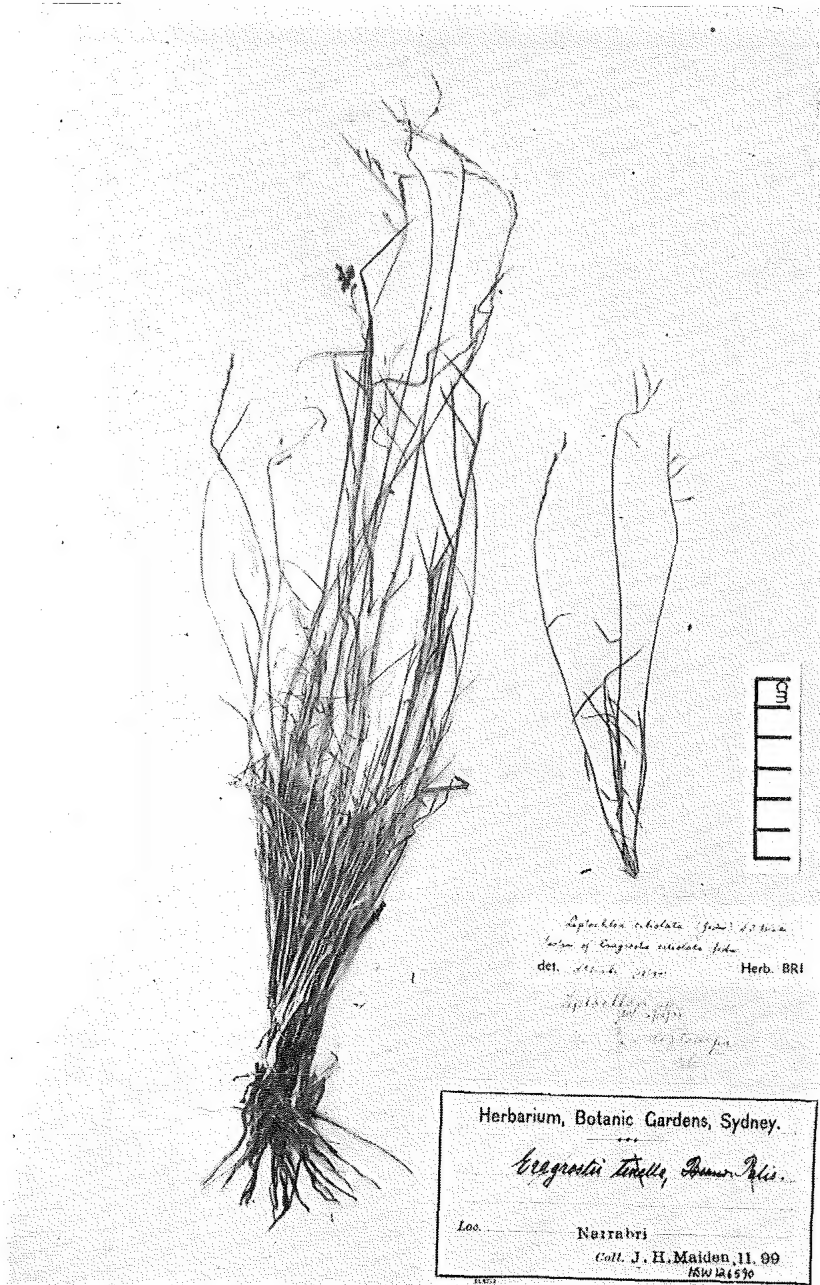


FIG. 4. Isotype of *Eragrostis ciliolata* (= *Leptochloa ciliolata*).

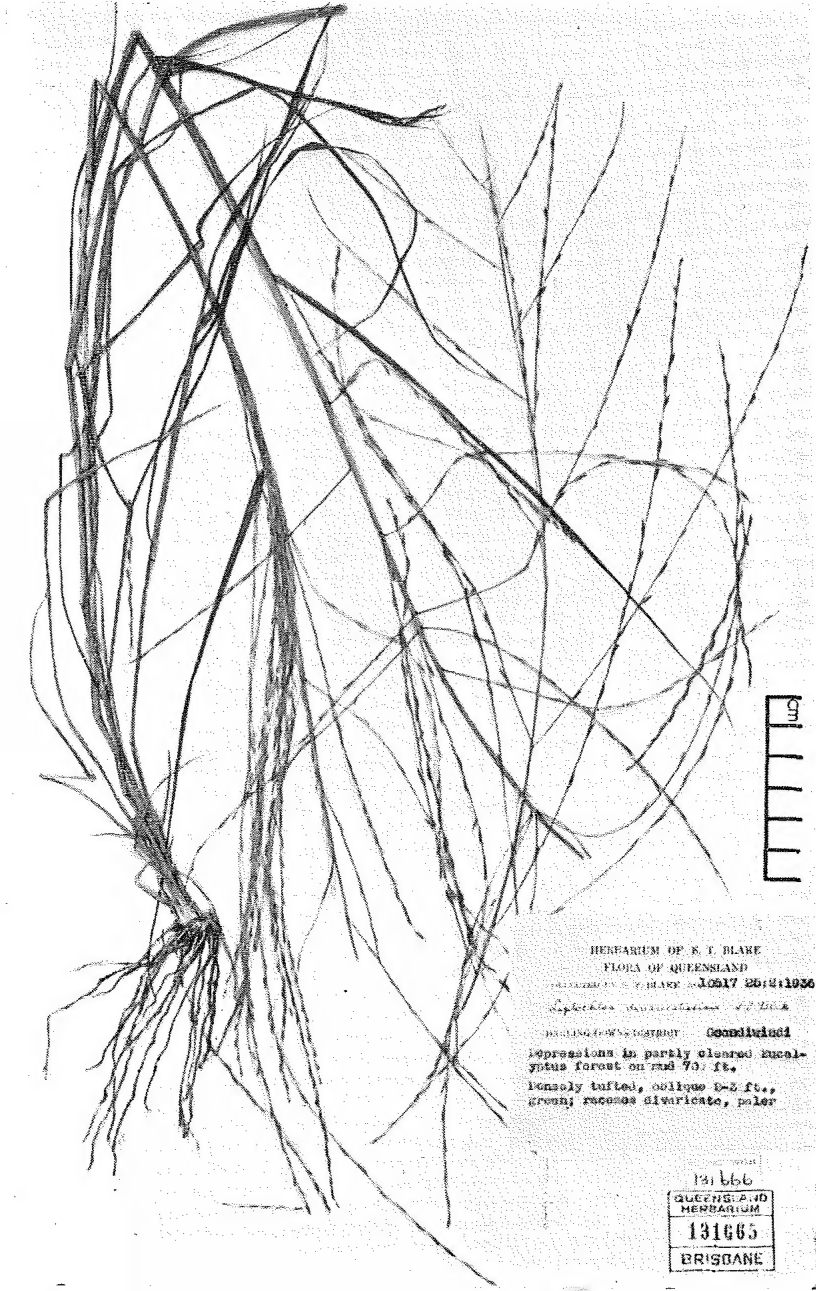


FIG. 5. Part of type of *Leptochloa divaricatissima*.

CONTRIBUTIONS
FROM THE
QUEENSLAND HERBARIUM

Papers are numbered consecutively, paged independently and issued at irregular intervals. Those previously published are

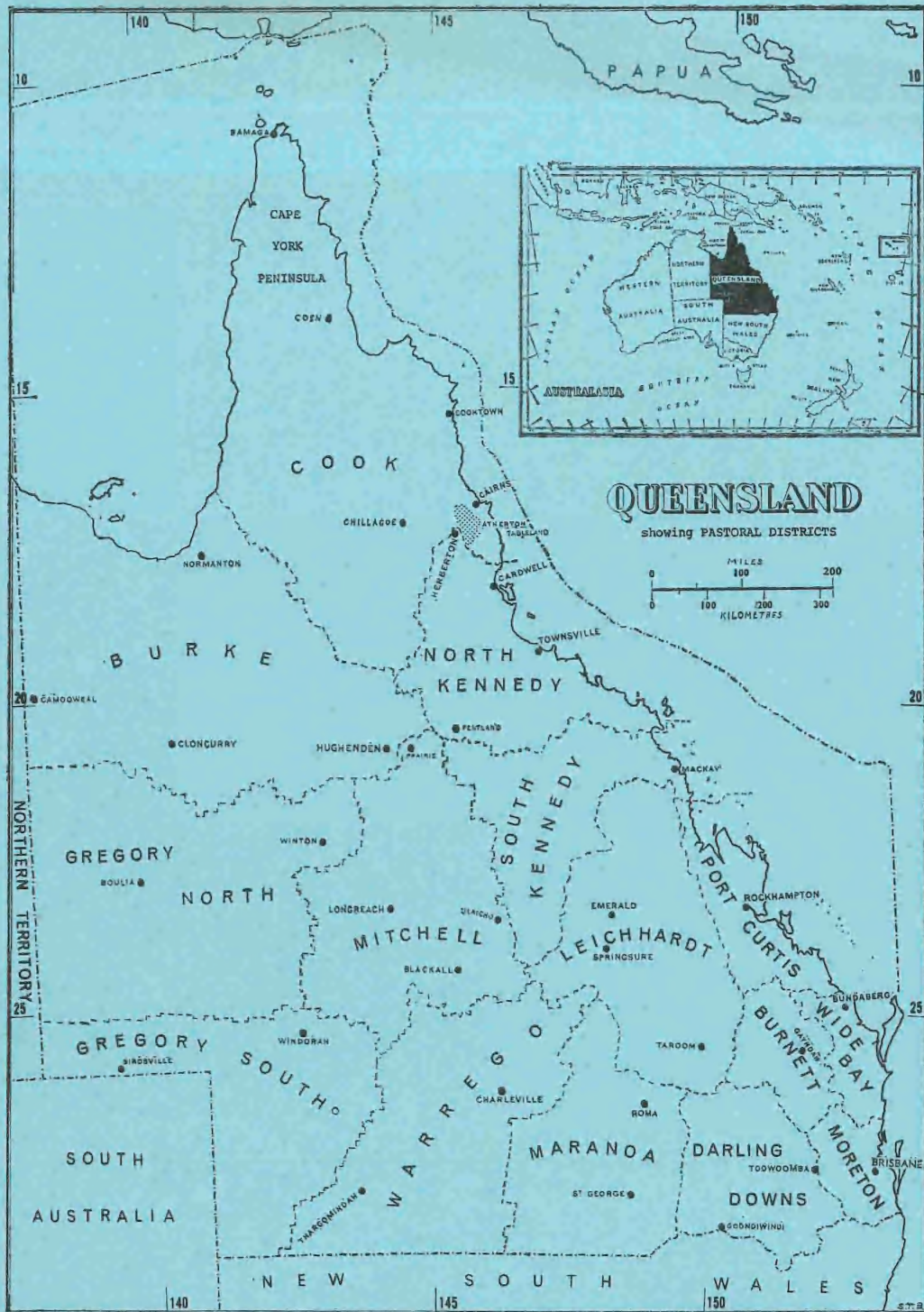
- No. 1. A Revision of *Melaleuca leucadendron* and its Allies (Myrtaceae).
By S. T. Blake. Published 27th May, 1968.
- No. 2. *Podolepis monticola*, a New Species of Compositae from Queensland.
By R. J. F. Henderson. Published 9th September, 1969.
- No. 3. A Cytological Study of *Lantana montevidensis* (Spreng.) Briq. in Queensland.
By R. J. F. Henderson. Published 9th September, 1969.
- No. 4. Notes on *Acacia*, chiefly from Queensland, III.
By L. Pedley. Published 9th September, 1969.
- No. 5. Intermediates between *Eucalyptus populnea* F. Muell. and *E. brownii* —
Maid. & Cambage.
By L. Pedley. Published 9th September, 1969.
- No. 6. New Species of and Notes on Queensland Plants. V.
By L. S. Smith. Published 9th September, 1969.
- No. 7. A Revision of *Carpobrotus* and *Sarcozona* in Australia, Genera Allied to
Mesembryanthemum (Aizoaceae).
By S. T. Blake. Published 9th September, 1969.
- No. 8. Studies in Cyperaceae.
By S. T. Blake. Published 9th September, 1969.
- No. 9. A Revision of *Plectranthus* (Labiatae) in Australasia.
By S. T. Blake. Published 23rd April, 1971.

Distribution of No. 1 began on the 27th May, 1968, the date on the cover and title-page. Nos. 2-8 have "Issued 30th September, 1969" on the cover and title-page but they were received from the printer on 9th September and distribution began on that day. No. 9 was dated 7th May, 1971; it was received and distribution commenced on 23rd April.

Now simultaneously published are

- No. 10. *Trachymene cyanantha*, a new Species of Umbelliferae from Queensland.
By D. E. Boyland.
- No. 11. A Revision of *Acacia lycopodiifolia* A. Cunn. ex Hook. and its Allies.
By L. Pedley.
- No. 12. *Idiospermum* (Idiospermaceae), a new Genus and Family for *Calycanthus australiensis*.
By S. T. Blake.
- No. 13. *Neurachne* and its Allies (Gramineae).
By S. T. Blake.
- No. 14. *Plinthanthesis* and *Danthonia* and a Review of the Australian Species of
Leptochloa (Gramineae).
By S. T. Blake.

Editor: S. T. BLAKE.



In the citation of specimens from Queensland, the localities are grouped according to the Pastoral Districts shown above. The boundaries of these Districts mostly follow watersheds except for those between North Kennedy District and South Kennedy District and between Gregory North District and Gregory South District.

Compiled from maps issued by the Survey Office, Department of Lands, Brisbane; based on State Map 4a.