

SOUTH AFRICAN GRAMINEAE.

A NEW GENUS AND SEVEN NEW SPECIES.

By SYDNEY M. STENT.

Mosdenia. Genus novo. *Tragus* similis sed glumae emuricatae, subaequales spiculae solitariae. Folia ciliata.

Mosdenia waterbergensis, Stent. (Pl. I.)

Gramen perenne, basim decumbente stolonifere; stolones cataphyllibus brevibus dense imbricatis obtecti. *Innovationes* intravaginales, vaginis brevis et foliis distichis. *Culmi* ascendentes 60–90 cm. longi, simplices, vel ad nodes inferiores ramosi; internodii breviter exserti. *Foliorum vaginae* teres, arctae, striatae, glabrae, laeves, laminis pallidiores; *ligulae* brevis 0.5–0.3 mm. membranaceae; *laminae* lineares ad 12 cm. longae, 5 mm. latae, glaucescentes, glabrae. *Spica* cylindrica, densa, spiculis solitarius nodos tomentosos rachis ferentibus; rachis striata, scabris. *Spiculae* 3.75 mm. longae, uniflorae, anguste lineares, subfalcatae, glabrae, praeter basem crassum minute-pilosum; *glumae* subaequales, inferior paulo longior et latiore, navicularis, falcata, rigide membranacea; carina virida prominente, superior idem sed angustior et strictior; *valva* 3 mm. longa, hyalina, 1–3 nervosa; *palea* subaequale. *Stamina* 3. *Styli* distincti, breves; *lodiculae* truncatae, ovarium subaequant.

Perennial prostrate ascending. *root-stock* stoloniferous, stolons covered with short, dry, densely imbricate cataphylls. *Innovation shoots* intravaginal with short sheaths and distichously-arranged leaves. *Culms* ascending 60–90 cm. high, simple or branched from the lower nodes, internodes shortly exserted, leafy towards the base. *Leaf sheaths* terete, tight, striate, glabrous, paler than the blades, smooth; *ligule* short 0.5–0.3 mm. membranous; *blades* linear, tapering to an acute or sub-acute point, up to 12 cm. long × 5 mm. broad, bluish-green, glabrous, smooth or scaberulous on the margins, without a distinct midrib, rounded or slightly eared at the base. *Inflorescence* a single dense spike, the sessile spikelets arranged singly on minutely and densely tomentose notches, in whorls or spirals round a common ribbed and scabrid axis, from which they fall entire. *Spikelets* 3.75 mm. long, 1-flowered, glabrous except at the minutely hairy thickened base, narrow linear, subfalcate; *glumes* subequal to equal, lower slightly longer and broader than the upper, boat-shaped, curved, rigidly membranous, with a prominent green scabrid keel; upper like the lower but narrower and straighter; *valve* about 3 mm. long, delicately hyaline, 1-nerved or sub 3-nerved; *pale* nearly equalling the valve. *Stamens* 3. *Ovary* ovate; *style* short, distinct; *lodicules* truncate, about as large as the ovary.

On sand-veld, Mosdene, Naboomspruit, Waterberg, Transvaal, Galpin M. 447; Rooikop, Springbok Flats, Pole Evans.

This grass was first noticed by Mr. Galpin on his farm Mosdene, and later was collected by Dr. Pole Evans on the farm Rooikop. The latter reports the grass as growing plentifully but being, on account of its short herbage, of little agricultural value.



Mosdenia Waterbergensis, Stent.

A.—Spikelet. B.—Lower glume. C.—Upper glume. D.—Valve. E.—Pale.
F.—Pistil and stamens. G.—Grain.

Eragrostis valida, Stent.

Gramen perenne, dense caespitosum; rhizoma obliqua. *Culmi* erecti, glabri, validi, 120-150 cm. longi, internodiis inclusis; nodis paucis. *Foliorum vaginæ* longae, arctae imbricatae, glabrescentes, inferiores 26 cm. longae, dense hirsutae, plerumque purpureae; *laminæ* lineares longe tenuiterque, acutatae, ad 60 cm. longae, 7 mm. latae, glabrae, sed post ligulos piliis longiis mollibus tectis, planae, rigidae, supra asperulae, infra, laevae; *ligulae* ad marginem dense ciliatum redactae. *Panicula* patula vel contracta ad 30 cm. longa, rhachibus sulcatis minute scaberulis; *rami* subverticillati vel fasciculati, prope basim divise, *ramuli* breves spiculis pedicellis brevibus-appressis. *Spiculae* griseo-olivaceae, lineares, ad 6.25 mm. longae, 2 mm. latae, 5-7 floribus; rhachilla subpersistens tandem disarticulata; *glumæ* subaequales, acutae, carinis scabris, superior paulo longior; *valvae* obtusae circa 2 mm. longae; *paleae* truncatae, carinis scabris; *antherae* 3 mm. longae; *caryopsis* oblonga, 0.3 mm. longa, fusca, dorsa concava.

Perennial densely tufted on an oblique rhizome. *Culms* erect, glabrous, simple, stout, 4-5 feet high, and sheathed for almost their entire length, few noded. *Sheaths* long, the lower ones up to 26 cm. long, tight, imbricating, softly hairy with tubercle based hairs or glabrescent; *blades* linear, tapering to a fine point, up to 60 cm. long $\times$ 7 mm. broad, glabrous except for the long soft hairs at the base behind the ligule, smooth below, finely scaberulous above, finely ribbed, flat and rather rigid; *ligule* a short densely ciliate rim. *Panicle* open or contracted up to 30 cm. long; *rachis* sulcate, minutely scaberulous, with glandular swellings in the axils of the branches; *branches* subverticillate or fascicled, divided from near the base. *Spikelets* on short pedicels, more or less appressed to the short branchlets, dark-greyish or olive-green, up to 6.25 mm. long $\times$ 2 mm. broad, linear, 5-7-flowered, rachilla sub-persistent, ultimately breaking up; *glumes* subequal, acute, scabrid on the keel, lower 2 mm. long, upper slightly longer; *valves* obtuse, 2 mm. or slightly longer, side nerves reaching beyond the middle; *pale* truncate, with broad flaps and scabrid keels; *anthers* 3 mm. long; *grain* oblong, quadrangular, 0.3 mm. long, brown, concave or grooved on the back.

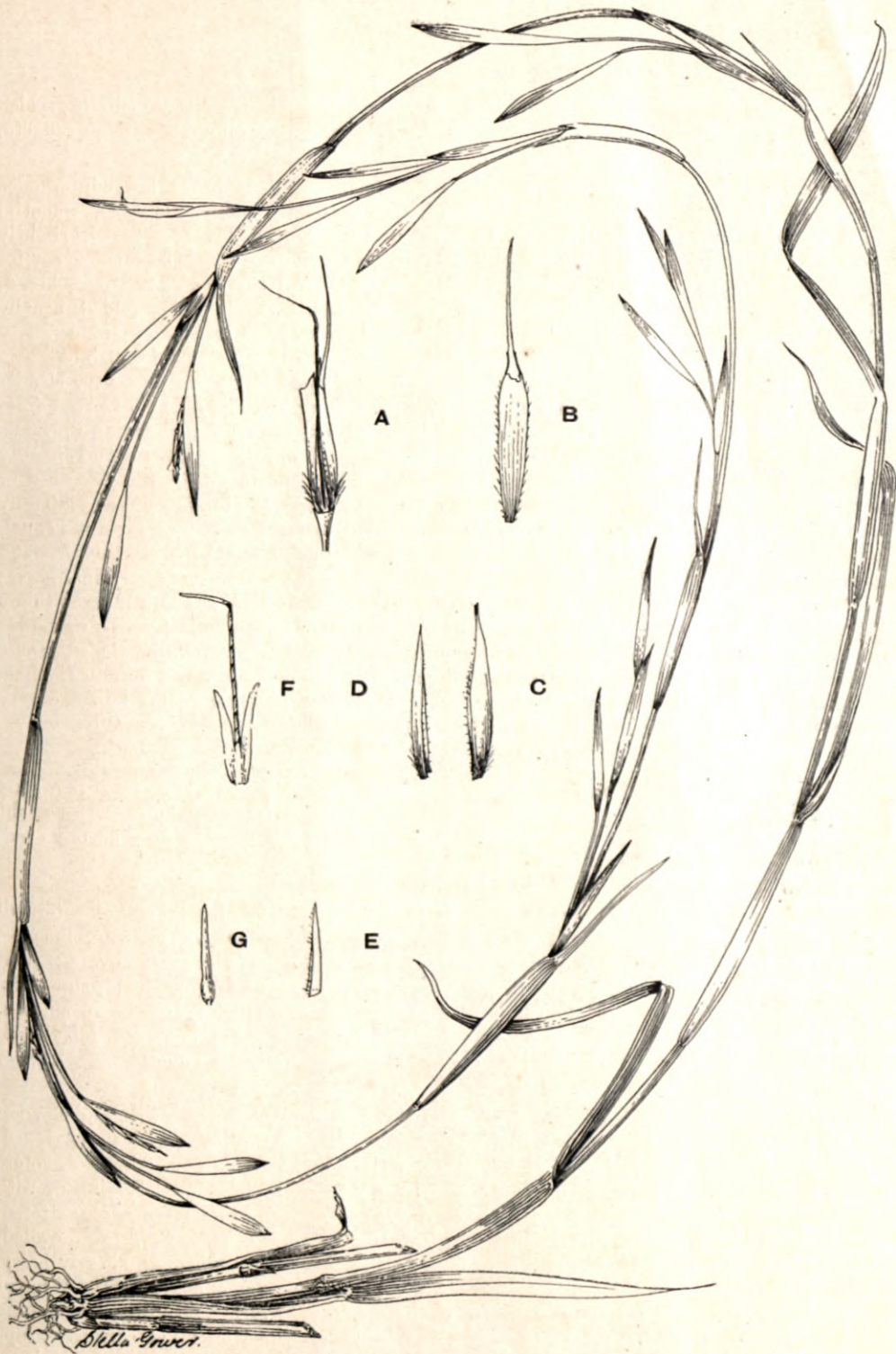
Maritzburg, Natal, *Angus* 2 (*Govt. Herb.* 13862).

Near to *E. curvula* var. *valida*, but a stouter, coarser grass, with long, tight sheaths that enclose the culms, the lower ones very hairy and long, usually of a purplish colour.

Mr. Angus says of this grass: "A big, coarse variety that grows very erect, has a dark purple stem, which is covered thickly with hairs, and is, if anything, better relished by cattle than No. 3 (*E. curvula*) . . . apparently good feeding, as cattle get into good condition whilst feeding on them."

Schizachyrium inclusum, Stent. (Pl. II.)

Gramen annuum. *Culmi* erecti, simplices, circa 75 cm. longi, 5-nodi, glabri, nodis inferioribus brevissimis teretibus vel subcompressis. *Foliorum vaginæ* laxae, carinae glabrae laeves; *ligulae* membranaceae, ad 0.75 mm. longae, minute fimbriatae; *laminæ* lineares, base paulo constricti, glabrae, sed post ligulam pilis longis paucis tectis, 6-10 cm. longae, 2.3 cm. latae, longe attenuatae, apicibus obtusos vel subacutis, planae, vel complicatae, plerumque rubescentes. *Panicula* spuria longa, angusta, exigua; *rami* graciles; *spathæ* 3.5 cm. longae, angustae rubescentes laminas minutas apicibus gerentes; *pedunculi* communes graciles, clavati. *Racemi* 2-nati, in spathis inclusi, 2.5 cm. longi, ad circa 6 articuli; *articuli* 3.5 mm. longi, aliquantum concavi, cuneati, apici cupuliforme dentato, 1 mm. longo, breviter ciliati, alioqui glabri; pedicelli articulis aequales, complanati, lineares, breviter et parce ciliati, apicibus 2-dentatis. *Spicula sessilis* inter articularum pedicellumque a latere admodum compressa, 4 mm. longa, callo 1 mm. longo, barbato; *gluma inferior* chartacea, marginibus hyalinis, dorso convexa, apicem versas bi-carinata et asperula, nervibus intra-carinis 4-5; *gluma superior* cymbiforma acuta, 1-nerves, breviter mucronata, inferne subchartacea, apicem versus membranacea, vel fere hyalina; *valva inferior* linear oblonga, hyalina, vacua, 2-3 mm.



Schizachyrium inclusum, Stent.

A.—One joint of raceme with sessile and pedicelled spikelets.

B.—Reduced pedicelled spikelet and pedicel.

SESSILE SPIKELET. C.—Lower glume. D.—Upper glume. E.—Lower valve. F.—Upper valve. G.—Grain.

longa; *valva superior* admodum biloba, segmentis linearibus obtusis minute ciliatis; *palea* desunt; *caryopsis* linear, acuta, 3 mm. longa. *Spicula pedicellata* gluma brevissima redacta, mucrone 3.5 mm. longo.

Annual. *Culms* erect, simple, 75 cm. high, about 5-noded, glabrous, lower internodes very short, terete, or sub-compressed. *Leaf sheaths* loose, keeled glabrous, smooth; *ligules* membranous, up to 0.75 mm. long, minutely fimbriate; *blades* linear, slightly constricted at the junction of the sheath, scaberulous on the margins, glabrous except for a few long, white, tubercled based hairs at the base behind the ligule, 2-3 mm. broad, 6-10 cm. long, gradually tapering to an obtuse or sub-acute point, flat or folded, usually turning reddish. *False panicle* long, narrow, and scanty. *Spathes* on sub-capillary branches about 2 cm. long, slender scarious, rusty red towards the tips, up to 3.5 cm. long and 2 mm. broad folded, tipped with a minute undeveloped leaf. *Racemes* very slender on short upward clavate peduncles, entirely included or only partially exerted from the spathes, 2.5 cm. long and about 6-jointed, joints 3.5 mm. long, widening upwards, somewhat concave, with a toothed cupuliform appendage 1 mm. long, shortly and sparsely ciliate, otherwise glabrous. *Pedicles* as long as the joints, flattened, linear, 2-toothed at apex, shortly and sparsely ciliate on the margins. *Sessile spikelets* linear, laterally compressed, convex on the back, 4 mm. long, bearded callus 1 mm. long; *glumes* equal, lower chartaceous with thinly membranous margins, rounded on the back, 2-keeled and scaberulous towards the 2-toothed tip, sparsely ciliate on the margins, intra-carinal nerves 4-5; *upper* boat-shaped, acute, 1-nerved, nerve extending into a short mucro, thinly chartaceous in the lower part becoming thinly membranous to almost hyaline upwards; lower floret reduced to a linear oblong, hyaline, nerveless valve 2.3-3 mm. long; upper floret ♂, valve deeply bifid to below the middle, segments linear, obtuse, minutely ciliate, pale wanting, grain linear, acute, 3 mm. long. *Pedicelled spikelets* reduced to one very small glume, terminating in a mucro 3.5 mm. long.

Enterprise, Rhodesia, Eyles 1646.

This species is founded on one specimen sent by Mr. Eyles. The specimen is a good one and quite complete, but it is obvious that more material of the same species might show trifling variations in measurements, etc., and possibly the culms may be branched.

Enneapogon pretoriensis, Stent. (Pl. III.)

Gramen perenne. *Culmi* erecti, simplices, 30-60 cm. longi, glabri vel internodi inferiores hirsuti. *Foliorum vaginæ* supra arctæ, glabræ; *laminæ* angustæ, lineares, plerumque convolutæ, 18 cm. longæ, 2.5 mm. latæ. *Panicula* angusta, ovata; *rami* solitarii longiores ad 15 mm. longi, internodi rachis inferiores ad 14 mm. longi, superiores deminuenti. *Spiculæ* 5 mm. longæ; *glumæ* equales vel subequales, brevæ pilosæ, apicibus truncatis fulvis; *valvæ* inferiores dorsis vilosæ, ventris glabræ, sed, lobis basin filis patentibus fimbriatæ; *aristæ* plumosæ, 3-3.5 mm. longæ; *paleæ* 4 mm. longæ, hirsutæ.

Perennial. *Culms* fascicled on a short oblique rhizome, erect, simple, wiry and slender, 30-60 cm. high, glabrous or often shortly hairy at and below the lower nodes, 1-2-noded. *Sheaths* tight except the basal ones, glabrous, finely ribbed; *blades* narrow, linear, convolute or flat, finely pubescent above, up to 18 cm. long $\times$ 2.5 mm. broad, finely ribbed, with 1-2 lateral nerves on either side the midrib. *Panicle* contracted, ovate; *branches* scattered, lower about 14 mm. apart, upper increasingly nearer to each other. *Spikelets* crowded, sessile or shortly pedicelled, about 5 mm. long; *glumes* equal to subequal, shortly hairy, greyish, rust coloured at the truncate tips; lower rather broader and 7-9-nerved; upper narrow, 5-nerved, nerves mostly evanescent above; *lower valve* 1 line long (excluding awns), villous on back from base to near the middle, glabrous on inner surface except for ring of patent hairs at base of awns; *awns* plumose to beyond middle, 3-3.5 mm. long, subequal, tips bare and scabrid; *pale* 4 mm. long, shortly and sparsely hairy on the back, villous on the flaps, and ciliate on the keel; *anthers* 2 mm. long.



Enneapogon Pretoriensis, Stent.

A.—Spikelet. B.—Lower glume. C.—Upper glume. D.—Valve. E.—Palea.
F.—Pistil and stamens with lodicules.

Pretoria, Wonderboom, *Burt-Davy* 8905: northern slopes of Magaliesberg, *Fouché* 1. (Of little economic value.)

Near to *E. scoparius*, from which it differs chiefly in the laxer and more distantly branched panicle and broader leaves.

***Eragrostis Burttdavii*, Stent.**

Gramen perenne, dense caespitosum, rhizomate repente pluribus dense confertis brevibus innovationibus. *Culmi* geniculati, 8–40 cm. longi, glabri, 1–2 nodi, internodia exserta. *Foliorum vaginæ* glabrae, tenuiter sulcatae, inferior laxae, breves, latae. *Laminae* glabrae, lineares, culmorum, 7 cm. longae, 2 mm. latae, innovationium angustiores et breviores, planae vel convolutae, apicem versus flexuosae. *Panicula* ovata, ad 10 cm. longa, 7 cm. lata; *rami* solitarii vel 2-nati, gracili, flexuosi; *ramulosi* 2–4 spiculis. *Spiculae* 4 mm. longae, 2 mm. latae, 6–9 florum; *gluma* inferior 0.75 mm. longa, obtusa, superior 1.25 mm. longa, subobtusata; *valvae* 1.5 mm. longae, obtusae, scaberrulae, violaceae, apicibus flavibus; *palea* valvam aequans, truncata, marginibus late inflexis.

Perennial, densely caespitose, on a creeping rhizome with many densely crowded, short innovation shoots. *Culms* geniculate, 8–40 cm. high, glabrous, 1–2-noded, internodes exserted. *Sheaths* glabrous, finely ribbed, tight except the lower ones, which are broader, stout and loose; *ligules* a fringe of hairs. *Leaf blades* glabrous, linear, tapering to a fine point, those of the culm 2 mm. × 7 cm., those of the innovation shoots narrower and shorter, finely ribbed, midrib scarcely broader than the lateral veins, flat or convolute and flexuous in the upper part. *Panicle* ovate, up to 10 × 7 cm.; *branches* solitary or or 2-nate, undivided from 2–14 mm. above the base; *rachis* scaberrulous or smooth, flexuous; *branchlets* 2–4 spiculate; *pedicels* 2–4 mm. long. *Spikelets* linear, lanceolate, about 4 × 2 mm., 6–9-flowered; *glumes* unequal, lower 0.75 mm. long, obtusa, upper 1.25 mm. subobtusate; *valves* 1.5 mm. long, obtuse, scaberrulous, purple, with light yellowish tips; side nerves fine, extending to beyond the middle; *pale* equalling the valve, truncate, scaberrulous, flaps broad; *anthers* 3, up to 1 mm. long.

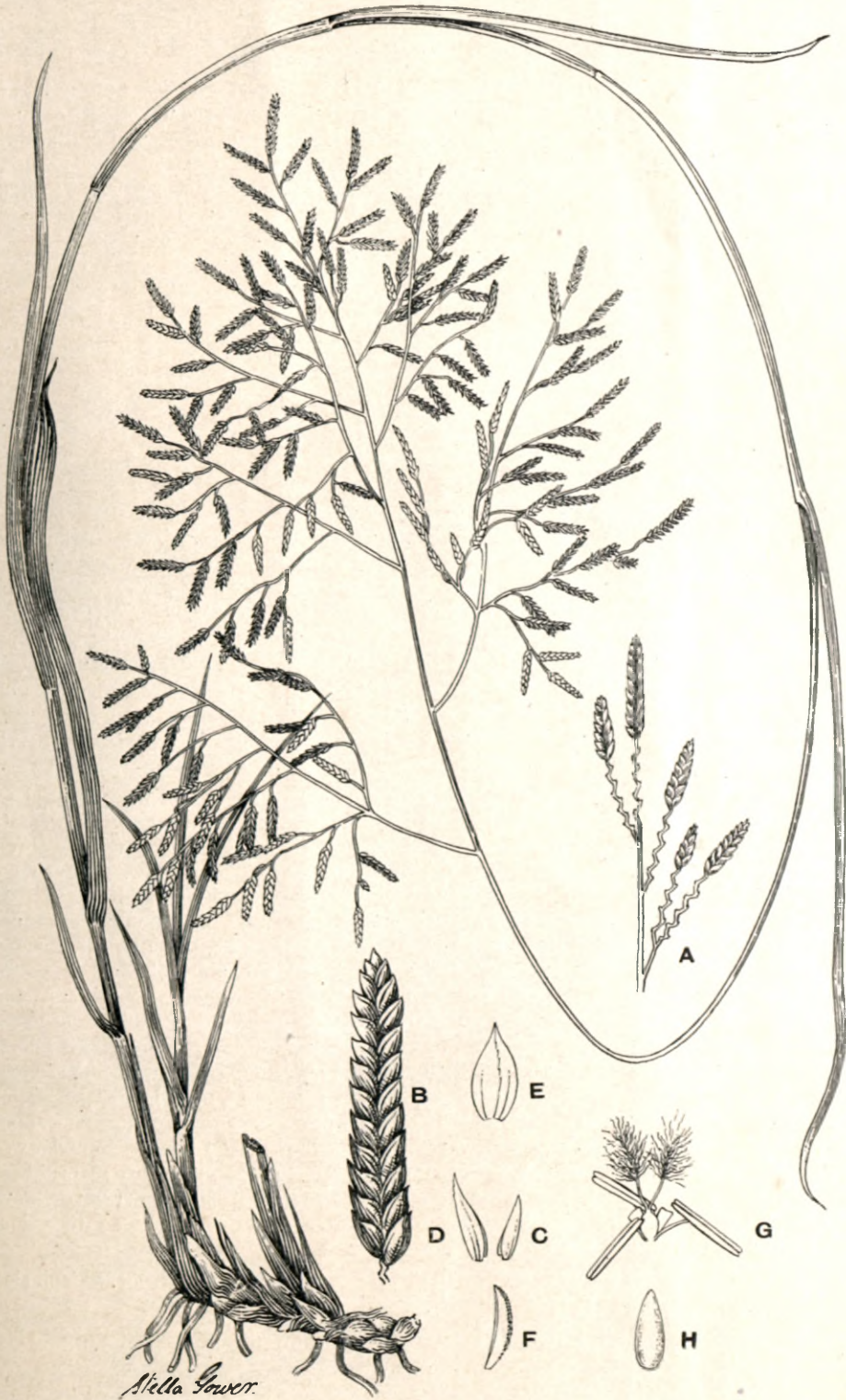
Very near to *E. bicolor*, Nees; but with a shorter and, in comparison, broader panicle and rather broader spikelets.

Bloemhof, Transvaal, *Burt-Davy* 10506; Great Karasberg, *Pearson in Bolus Herb.* 8480.

***Eragrostis Galpinii*, Stent. (Pl. IV.)**

Gramen perenne. *Culmi* fasciculati, rhizomate repente, erecti, vel geniculato-ascendentes, glabri, ad 90 cm. longi, pluri nodi, nodi inferiores brevi; culmorum bases et rhizomata cataphyllibus brevibus et scariosis obiecta. *Foliorum vaginæ* laxae, striatae, inferiores carinatae et compressae; *laminae* angustae, lineares, ad 15 cm. longae, 5 mm. latae, apicibus angustis abtusis, planae, vel complicatae, rigidae, glabrae. *Panicula* late oblonga vel pyramidalis, patula, laxa ad 20 cm. lata, 20 cm. longa; *rami* solitarii, inferiores distantes ramulos 1–3 cm. e basi gerentes. *Spiculae* fere secundae ad 23 mm. longae, 2.5 mm. latae, circa 10–30 florum; rhachilla flexuosa, primo persistente; *glumae* subaequales, inferiores 1.5 mm., superiores, 2 mm. longae, minute asperulae; *valvae* purpureae, subcutae, omnino minute scabridae; *palea* acuta, hyalina inter carinas rigide-ciliatas; styli distincti; lodiculi truncati; *antherae* 1.3 mm. longae.

Perennial. *Culms* fascicled on a creeping rhizome, erect or geniculate-ascending, simple or branched, glabrous, slender, up to 3 feet high, many-noded, internodes included, or shortly exserted, or the upper most sometimes long exserted, lower short; bases of culms and rhizomes covered with short, scarious scales. *Sheaths* loose, striate, the lower ones sub-compressed and keeled, glabrous except at the often long-bearded mouth; *ligule* a ciliate membranous rim; *blades* narrow, linear, up to 5 mm. broad × 15 cm. long, tapering to a narrow, rounded point, flat or folded, rather firm, glabrous, smooth below except towards the tips, finely scaberrulous above. *Panicle* broadly oblong or pyramidal, spreading, lax up to 20 cm. broad × 20 cm. long, branches solitary, lower ones rather distant, spreading,



Eragrostis Galpinii, Stent.

A.—Branchlet showing flexuous persistent rachillae. B.—Spikelet. C.—Lower glume. D.—Upper glume. E.—Valve. F.—Pale. G.—Pistil and stamens with lodicules. H.—Grain.

unbranched for from 1-3 cm. from the base, up to 11 cm. long; *branchlets* spreading, the lowest pair of the lowest branches usually close together sub 2-nate, the upper ones gradually shorter and solitary, less divided and with fewer spikelets and often secund and scabrid; quite glabrous, without or with few hairs in the axils. *Spikelets* linear, up to 23 mm. long $\times$ 2.5 mm. wide, and 10-30-flowered, rachilla at first persistent; *glumes* subequal, lower 1.5 mm. long, upper 2 mm. long, 1-nerved, minutely scabrid on nerve; *valves* over 2 mm., purplish, sub-acute, 3-nerved, side nerves long, minutely scabrid all over; *pale* acute; rigidly ciliate on the keels, scabrid, nearly equalling the valve, hyaline between the rigidly ciliate keels; *ovary* oval; *style* distinct; *lodicules* truncate. *Stamens* 3; *anthers* 1.3 mm. long; *grain* ovoid, rounded; embryo small.

Mosdene, Naboomspruit, Waterberg, *Galpin* 456; Warmbaths, *Burt-Davy* 1149; near Nylstroom, *Burt-Davy* 2034; Letaba River, Zoutpansberg, *Junod, Govt. Herb.*, 4673.

Near to *E. gangetica*, from which it differs in the widely spreading panicle, longer branchlets, and fewer spikelets.

***Tristachya pedicellata*, Stent.**

Gramen perenne, caespitosum, rhizomate obliquo. *Culmi* validi, ad 120 cm. longi, glabri, laeves, 1-3 nodi. *Foliorum vaginæ* aliquantum arctæ, striatæ, glabræ, sed inferiores villosulæ; *laminæ* lineares, planæ, 15-23 cm. longæ, 6-8 mm. latæ, glabræ, rigidæ, supra asperulæ, infra laeves. *Panicula* contracta, nodi inferiores pilosi; *rami* ad 5 cm. longi, sæpe multo minus, superiores sæpe nihilo redacti. *Gluma*, inferior, rigide, 3-nervosa, 13 mm. longæ, 4 mm. latæ, glabra, laeves, ovata, subacuta; superior, 24 mm. longæ, 4.5 mm. latæ, apice obtusa. *Valva* inferior, 7-nervæ, 20 mm. longæ, glabra, obtusa, laevis; *antheræ* 8 mm. longæ; *lodiculæ* 1.3 mm. longæ, 0.8 mm. latæ; *palea* brevior. *Valva* superior, ad 12 mm. longæ, 7-9 nervæ, mucrones 2 loborum lateralium breves; arista media valida, ad 6.5 cm. longæ; *palea* apice acuta.

Compactly caespitose on oblique rhizoms. *Culms* stout, up to 120 cm., glabrous, smooth, 1-3-noded, internodes exerted. *Leaf sheaths* somewhat tight, finely ribbed and glabrous, except the lowest, which are loose and finely and appressedly hairy between the ribs; *blades* linear, tapering to an acute point, 15-23 cm. long $\times$ 6-8 mm. wide, glabrous, rigid, flat, scabrid above and on the cartilaginous margins, smooth below. *Panicle* contracted, scanty; rachis smooth, with oblique, membranous and hairy scales around the lower nodes; *branches* up to 5 cm. long, often much shorter, the upper so much reduced that the triplets of spikelets appear to be sessile on the rachis. *Pedicels* distinct, 2.4 mm. long. *Lower glume* strongly 3- sub 5-nerved, with a few irregular, oblique, transverse veins, 13 mm. long $\times$ 4 mm. wide (flattened out), glabrous, smooth, ovate, subacute; *upper* 3-nerved, 24 mm. long $\times$ 4.5 mm. wide (flattened), narrowing to an obtuse apex, a few irregular oblique veins connecting the nerves in the upper part, glabrous and smooth. *Lower valve* 7-nerved, 3 nerves percurrent, 20 mm. long, glabrous, smooth, obtuse; *anthers* 8 mm. long; *lodicals* 1.3 mm. long $\times$ 0.8 mm. broad; *palea* 14 mm. long, with scabrid keels and bifid tips, lobes acute. Upper floret 12 mm. long, with long-bearded callus 4 mm.; *valve* 12 mm. long, 7- sub 9-nerved in the upper part, hairy, bifid, awned from between the lobes; awn 6.5 cm.; lobes including short macro 4 mm.; *palea* with acute scabrid keels, very narrow between the keels, 9 mm. long; *stamens* 3; *style* distinct; *ovary* trigonous; *lodicules* lanceolate, 2 mm. long; *caryops* long, narrow, cylindrical, up to 7 mm. long, grooved on the face; *embryo* 2 mm. long.

Near to *Tristachya rehmanni*, from which it differs chiefly in the pedicelled spikelets, the short bristles of the upper valve and in the broader leaves.

Waterberg (Transvaal): Warmbaths, *National Herbarium, Burt-Davy* 1144; Naboomspruit, *Galpin* 428.