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NEW GRASSES FROM HONDURAS
COLOMBIA, VENEZUELA, ECUADOR
BOLIVIA, AND BRAZIL

By JASON R. SWALLEN



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PREFACE

IN the present paper, by Jason R. Swallen, curator of the division of grasses, United States National Herbarium, 34 new species of grasses are described. They are based mainly on recent collections from countries of tropical America, the types being deposited in the National Herbarium.

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NEW GRASSES FROM HONDURAS, COLOMBIA, VENEZUELA, ECUADOR, BOLIVIA, AND BRAZIL

By JASON R. SWALLEN

THE new species described herein are mostly from the collections of recent years of Julian A. Steyermark in Venezuela and Ecuador, E. P. Killip and J. Cuatrecasas in Colombia, Juvenal Valerio Rodríguez in Honduras, and those of the author in Brazil. The others were collected by Agnes Chase and H. Pittier in Venezuela, M. Acosta Solis and Reinaldo Espinosa in Ecuador, P. Dusén and Ricardo de Lemos Fróes in Brazil, H. Karsten in Colombia, and M. Cárdenas in Bolivia.

CORTADERIA PUNGENS Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 27–35 cm. alti, 3 nodosi; folia inferiora basi culmorum aggregata, vaginis glabris, fibrosis, laminis erectis, firmis, pungentibus, complicatis, 10–20 cm. longis, supra basin dense pubescentibus, marginibus scaberrimis basi ciliatis; culmorum vaginae elongatae, internodiis longiores; ligula ciliata 1.5 mm. longa; laminae 3–6 cm. longae; panícula 8–9 cm. longa, erecta, angusta, densa, axe et ramis dense pilosa, pilis appressis; glumae 12–15 mm. longae, aurea et purpurascens, lemma 5–6.5 mm. longum, bilobatum, lobis obtusis vel subacutis, aristatis, aristis 1–2 mm. longis, inter lobos aristatum, arista 8–11 mm. longa, geniculata, basi plana, tortuosa; palea obovato-elliptica, lemmate brevior, inter carinas pubescens, carinis scabro-ciliata, apice angusto, truncato, minute ciliato.

Perennial; culms densely tufted, erect, 27–35 cm. tall, 3-noded; basal leaves forming a dense cluster at the base of the culms, the sheaths crowded, glabrous, becoming fibrous with age, the blades erect, firm, pungent, tightly folded, 10–20 cm. long, densely pubescent on the upper surface at the base, the margins very scabrous, densely ciliate at the base; culm sheaths elongate, longer than the internodes, the uppermost reaching the base of the panicle; ligule a dense line of hairs 1.5 mm. long; blades 3–6 cm. long; panicle 8–9 cm. long, erect, narrow, rather dense, the axis and branches densely hairy, the hairs appressed; glumes mostly 12–15 mm. long, acuminate, golden tinged with purple; lemma 5–6.5 mm. long, deeply bilobed, awned from between the lobes, the awn 8–11 mm. long, flattened and rather broad at the base, somewhat twisted and geniculate spreading, the lobes obtusish or subacute, awned, the awns 1–2 mm. long; palea

obovate-elliptic, shorter than the lemma, pubescent between the scabrous-ciliate keels, the tip narrow, truncate, minutely ciliate.

Type in the U. S. National Herbarium, No. 1353059, collected on Páramo de Santurbán, near Vetas, Department of Santander, Colombia, altitude 3,950–4,160 meters, January 17, 1927, by E. P. Killip and Albert C. Smith (No. 17467).

CORTADERIA SCABRIFLORA Swallen, sp. nov.

Perennis; culmi dense caespitiosi, ca. 1 m. alti (?), laminis basi dense aggregatis; culmi vaginae latae, glabrae, summo marginibus ciliata; ligula ciliata, 1 mm. longa; laminae usque ad 55 cm. longae, 8 mm. latae, basi incurvatae, subtus glabrae, supra basi dense pubescentes, marginibus scaberrimae basi ciliatissimae; panícula 25 cm. longa, 4 cm. lata, densa, ramis appressis, hirsutis et sparse vel dense pilosis; spiculae hermaphroditae; glumae subaequales, 14–16 mm. longae, acuminatae, aureae et purpurascens, nervo prominente; lemma infimum 7 mm. longum, scabrum, in parte inferiore sparse pilosum, pilis usque ad 4 mm. longis, minute bilobatum, lobis aristatis aristis 3 mm. longis, inter lobas aristatum, arista 6–9 mm. longa, scabra, basi plana; callus 0.5 mm. longus, dense barbatus, pilis 1.5 mm. longis; palea lemma aequans, apice truncata minute ciliata, carinis minute scabra; antherae 3 mm. longae.

Densely tufted perennial; leaves mostly crowded in a dense basal cluster, hard and firm; culm sheaths broad, rounded, rather loose, straw-colored, glabrous, the margins more or less ciliate toward the summit; ligule a dense rim of hairs 1 mm. long; blades as much as 55 cm. long, 8 mm. wide, incurved at the base, becoming flat above, glabrous beneath, densely pubescent above near the base, the margins very scabrous rather conspicuously ciliate at the base; panicle 25 cm. long, about 4 cm. wide, rather dense, the branches appressed, hirsute and also sparsely to rather densely hairy; spikelets perfect; glumes subequal, 14–16 mm. long, relatively firm, acuminate, golden, tinged with purple, the nerve rather strong and prominent; lowest lemma 7 mm. long, scabrous, sparsely covered with long white spreading hairs on the lower half, the hairs as much as 4 mm. long, the tip shallowly lobed, awned from between the lobes, the awn 6–9 mm. long, scabrous, somewhat flattened toward the base, the lobes awned, the awns 3 mm. long, the callus about 0.5 mm. long, densely bearded, the hairs 1.5 mm. long; rachilla joint glabrous; palea as long as the lemma, the narrow tip truncate, minutely ciliate, the keels minutely scabrous; anthers 3 mm. long.

Type in the U. S. National Herbarium, No. 1911636, collected along lakeshore, on paramos, in vicinity of Toreador, between Molleturo and Quinoas, Province of Azuay, Ecuador, altitude 3,810–3,930 meters, June 15, 1943, by Julian A. Steyermark (No. 53188).

CORTADERIA PARVIFLORA Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 60 cm. alti, infra paniculam pubescentes; folia basi culmorum aggregata, vaginibus senescentibus fibrosis, tortuosis; vaginae internodiis longiores, inferiores breves, glabrae, laminis elongatis, eae culmorum elongatae, laminis reductis; ligula dense ciliata, 0.5–1 mm. longa; laminae usque ad 60 cm. longae, 2–3 mm. latae supra basin pubescentes, marginibus scaberrimae basi ciliatae; paniculae 12–15 cm. longae, 1–2 cm. latae, ramis adscendentibus vel appressis, inferioribus 3–4 cm. longis, basi nudis; spiculae hermaphroditae, 3-florae; glumae 5–6 mm. longae, 0.5–0.6 mm. latae, tenues, acutae, aureae; lemma infimum 7 mm. longum, acuminatum, bifidum, dentibus 0.5 mm. longis, acutis, exaristatis, in parte inferiore pilosum, pilis 4–5 mm. longis, inter dentes aristatum, arista recta, 4–5 mm. longa; palea 3.5 mm. longa, lemmate multo brevior, glabra, carinis scabro-ciliata.

Perennial; culms densely tufted, erect, 60 cm. tall, pubescent below the panicles; leaves mostly crowded toward the base, the old lower sheaths becoming fibrous and much curled; sheaths longer than the internodes, the lower ones short, glabrous, loose, with elongate blades, those of the culm elongate with much reduced blades; ligule a dense rim of hairs 0.5–1 mm. long; blades as much as 60 cm. long, 2–3 mm. wide, pubescent on the upper surface at the base, the margins strongly scabrous, ciliate at the base; panicles 12–15 cm. long, 1–2 cm. wide, the branches ascending or appressed, the lower ones 3–4 cm. long, naked at the base; spikelets 3-flowered, the florets perfect; glumes 5–6 mm. long, 0.5–0.6 mm. wide, thin, acute, golden; lowest lemma 7 mm. long, acuminate, bifid, the teeth about 0.5 mm. long, acute, awnless, villous on the lower part of the back, the hairs ascending, 4–5 mm. long, awned from between the teeth, the awn straight, 4–5 mm. long; palea 3.5 mm. long, much shorter than the lemma, glabrous, the keels scabrous-ciliate.

Type in the U. S. National Herbarium, No. 1912278, collected in meadow, between La Trampa and Casadero, along tributary of Quebrada del Salado, State of Mérida, Venezuela, altitude 2,225–2,590 meters, April 28, 1944, by Julian A. Steyermark (No. 56182).

CORTADERIA PLANIFOLIA Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 35–55 cm. alti; vaginae inferiores breves, condensatae, glabrae, eae culmorum elongatae internodiis breviores, glabrae, suprema lamina reducta vel nulla; ligula ciliata, 0.5 mm. longa; laminae planae, erectae firmae, 8–12 cm. longae, 2–4 mm. latae, supra scaberulae, marginibus scaberrimae; paniculae 10 cm. longae, pauciflorae, ramis subremotis, adscendentibus scabris, inferioribus ca. 6 cm. longis; glumae 8–10 mm. longae, acumi-

natae, exaristatae; lemma 7 mm. longum, angustum, acuminatum, arista recta 7 mm. longa, in parte inferiore pilosum, pilis adscendentibus 4 mm. longis; callus 1 mm. longus, barbatus, pilis usque ad 1.5 mm. longis; palea 4.5 mm. longa, scabra, carinis minute scabra-ciliata.

Perennial; culms densely tufted, erect, 35–55 cm. tall; innovations numerous, crowded, the sheaths short, overlapping, glabrous; culm sheaths elongate, mostly shorter than the internodes, glabrous, the upper one with much reduced blade or bladeless; ligule ciliate, 0.5 mm. long; blades flat, erect, firm, 8–12 cm. long, 2–4 mm. wide, scaberulous above, the margins strongly scabrous; panicles 10 cm. long, few-flowered, the lower rather distant, scabrous branches ascending, about 6 cm. long; glumes 8–10 mm. long, acuminate, awnless; lemma 7 mm. long, narrow, gradually narrowed into an awn 6 mm. long, the tip entire, hairy on the lower part of the back, the hairs ascending, 4 mm. long, the callus 1 mm. long, densely hairy, the hairs as much as 1.5 mm. long; palea 4.5 mm. long, scabrous, the keels minutely scabrous-ciliate.

Type in the U. S. National Herbarium, No. 1854213, collected at "Los Farallones, extremo N., vertiente NW, entre Alto del Buey y Quebrada de los Ramos," Cordillera Occidental, Department of El Valle, Colombia, altitude 3,450–3,350 meters, October 12, 1944, by J. Cuatrecasas (No. 18059).

FESTUCA RECLINATA Swallen, sp. nov.

Perennis; culmi elongati, decumbentes vel prostrati, ramosi; vaginae internodiis longiores, glabrae; ligula hyalina, lacerata, usque ad 2 mm. longa; laminae 7–10 cm. longae, 2–4 mm. latae, planae, tenues, glabrae vel nervo medio basi pubescentes; paniculae usque ad 4 cm. longae, usque ad 1 cm. latae, pauciflorae, ramis brevibus flexuosis; spiculae 8–9 mm. longae, 3–5-florae; glumae acutae vel acuminatae, prima 2–3 mm. longa, 1–3-nervis, secunda 3–4 mm. longa, 3-nervis, quam gluma prima latior; lemma primum 6.5 mm. longum, acuminatum, carina et nervis marginalibus scabrum, internerviis scaberulum, arista 1 mm. longa, scabra; palea bifida, lemmate brevior, carinis scabris; antherae 2.5 mm. longae.

Perennial; culms weak, decumbent spreading or prostrate, often branching; sheaths longer than the internodes, glabrous; ligule hyaline, lacerate, as much as 2 mm. long; blades mostly 7–10 cm. long, 2–4 mm. wide, acuminate, flat, soft, thin, glabrous, or somewhat pubescent on the midnerve on the upper surface toward the base; panicles as much as 4 cm. long, about 1 cm. wide, few-flowered, the axis and short branches flexuous; spikelets 8–9 mm. long, 3–5-flowered; glumes acute or acuminate, the first 2–3 mm. long, 1–3-nerved, the second 3–4 mm. long, 3-nerved, broader than the first; first lemma 6.5 mm. long, acuminate, distinctly scabrous on the keel and marginal nerves, somewhat

scabrous on the internerves, the awn about 1 mm. long, scabrous; palea bifid, shorter than the lemma, scabrous on the keels; anthers 2.5 mm. long.

Type in the U. S. National Herbarium, No. 1798714, collected on Páramo de Almorzadero, Cordillera Oriental, Department of Santander, Colombia, altitude, 3,500–3,700 meters, July 20, 1940, by J. Cuatrecasas and H. García Barriga (No. 9970).

FESTUCA PARCIFLORA Swallen, *sp. nov.*

Perennis; culmi erecti, basi decumbentes, 25–40 cm. alti; vaginae inferiores subaequales, lucidae, glabrae; ligula 1 mm. longa, firma, decurrens; laminae 10–12 cm. longae, involutae, in parte superiore arcuatae, sparse scabrae, suprema reducta; paniculae 4–11 cm. longae, angustissimae, ramis brevibus appressis 1–2-spiculatis; spiculae 2–3-flores, ca. 1 cm. longae; gluma prima 2.5–3 mm. longa, acuta, 1-nervis; gluma secunda 4 mm. longa, obtusa, 3-nervis; lemma acuminatum, 6.5–8 mm. longum, glabrum vel summo scabrum, aristatum, arista 0.5–1.5 mm. longa; palea acuminata lemmate paulo brevior.

Perennial; culms erect from a decumbent base, 25–40 cm. high, with 1 culm blade about the middle; basal sheaths subequal, smooth, shining; ligule 1 mm. long, firm, decurrent; blades mostly 10–12 cm. long, involute, firm, arcuate toward the tip, more or less scabrous, the culm blade much reduced; panicles 4–11 cm. long, very narrow, the short 1- or 2-flowered branches appressed; spikelets 2- or 3-flowered, about 1 cm. long; first glume 2.5–3 mm. long, acute, 1-nerved; second glume 4 mm. long, obtuse, 3-nerved; lemma acuminate, 6.5–8 mm. long including the awn 0.5–1.5 mm. long, glabrous, or scabrous toward the summit; palea acuminate, a little shorter than the lemma.

Type in the U. S. National Herbarium, No. 1911635, collected on paramos, in vicinity of Toreador, between Molleturo and Quinoas, Province Azuay, Ecuador, altitude 3,810–3,930 meters, June 15, 1943, by Julian A. Steyermark (No. 53092).

POA PETROSA Swallen, *sp. nov.*

Perennis; culmi graciles, caespitosi, erecti, 50 cm. alti. glabri, 2-nodos; vaginae compressae, carinatae, inferiores subequitantes 1–1.5 cm. longae, eae culmorum elongatae internodiis longiores vel breviores; ligula membranacea, acuta, 2 mm. longa; laminae conduplicatae, 4–8 cm. longae, 1.5–1.8 mm. latae, erectae, rectae vel falcatae, glabrae; panicula 8–10 cm. longa, ramis gracillimis, scabris, binis vel ternatis, flexuosis, in parte $\frac{1}{4}$ supremo floriferis; spiculae densae, 2-florae, ca. 3.8 mm. longae; glumae aequales, 3–3.5 mm. longae, carina scabrae, prima 1-nervis, secunda 3-nervis; lemma inferius 2.8–3.4 mm. longum, acutum, scabrum, basi sparse lanatum.

Perennial; culms tufted, slender, erect, about 50 cm. tall, 2-noded, glabrous; sheaths compressed-keeled, glabrous, the lower ones subequitant 1-1.5 cm. long, those of the culm elongate, longer or shorter than the internodes; ligule membranaceous, cute, 2 mm. long; blades conduplicate, 4-8 cm. long, 1.5-1.8 mm. wide as folded, erect, straight or falcate, glabrous; panicles long exserted, 8-10 cm. long, the very slender scabrous branches in rather distant fascicles of 2 or 3, naked below, spikelet bearing in the upper fourth; spikelets clustered, 2-flowered, about 3.8 mm. long; glumes equal, 3-3.5 mm. long, scabrous on the keel, the first 1-nerved (or rarely faintly 3-nerved), the second a little wider, 3-nerved; lower lemma 2.8-3.4 mm. long, acute, scabrous, especially on the keel, webbed at the base, the web sometimes sparse but plainly evident.

Type in the U. S. National Herbarium, No. 1912270, collected on dry rocky gneissic-granitic slopes, between Timotes and Paramito, State of Mérida, Venezuela, altitude 2,285-3,500 meters, March 24, 1944, by Julian A. Steyermark (No. 55737).

TRisetum foliosum Swallen, sp. nov.

Perennis; culmi caespitosi, erecti, 35 cm. alti, glabri; vaginae internodiis longiores, inferiores dense pubescentes, superiores glabrae; ligula hyalina, 3-4 mm. longa; laminae inferiores elongatae, 1.5 mm. latae, dense pubescentes, superiores, 7-11 cm. longae, 2-3 mm. latae, glabrae, marginibus ciliatis; panicula 14 cm. longa, 1.5 cm. lata, ramis appressis basi nudis, inferioribus usque ad 5.5 cm. longis; spiculae 7 mm. longae, 2-florae; gluma prima 5 mm. longa, acuminata, carino scabro-ciliata; gluma secunda 7 mm. longa, gluma prima duplo latior, acuminata, 3-nervis; lemma inferior 6 mm. longum, scabrum, lobis latis hyalinis 1 mm. longis; arista dorso medio inserta, 9 mm. longa, curvata; palea 4 mm. longa, carinis ciliata; rhachillae internodium 2 mm. longum, in parte superiore pilosum pilis 1 mm. longis.

Perennial; culms tufted, erect, 35 cm. tall, glabrous; sheaths all longer than the internodes, the lower ones densely pubescent, the upper ones glabrous; ligule hyaline, mostly 3-4 mm. long; lower blades elongate, about 1.5 mm. wide, densely pubescent, the upper blades 7-11 cm. long, 2-3 mm. wide, glabrous, the margins more or less ciliate; panicle 14 cm. long, about 1.5 cm. wide, dense but not spikelike, the branches appressed or narrowly ascending, naked at the base, the lower ones as much as 5.5 cm. long; spikelets 7 mm. long, 2-flowered, pale green tinged with purple; first glume 5 mm. long, 0.5 mm. wide from keel to margin, acuminate, scabrous-ciliate on the keel; second glume 7 mm. long, 1 mm. wide from keel to margin, rather abruptly narrowed to an acuminate tip, 3-nerved, the lateral nerves close to the keel; lower lemma 6 mm. long, scabrous, the lobes

of the broad hyaline tip 1 mm. long, irregularly toothed, the awn inserted at the middle of the back, 9 mm. long, curved, more or less laterally spreading, the callus very short or as much as 0.8 mm. long; palea about 4 mm. long, ciliate on the keels; rachilla joint between the florets 2 mm. long, hairy on the upper half, the hairs 1 mm. long.

Type in the U. S. National Herbarium, No. 1911640, collected on rocky slopes along stream above Laguna Mucubaji, toward Laguna Negra, State of Mérida, Venezuela, altitude 3,625–3,655 meters, July 21, 1944, by Julian A. Steyermark (No. 57482).

CALAMAGROSTIS KILLIPII Swallen, sp. nov.

Perennis; culmi caespitiosi, erecti, 20–28 cm. alti; vaginae internodiis longiores, glabrae vel puberulae; ligula 0.8 mm. longa, minute erosa; laminae 6–15 cm. longae, involutae, erectae, firmae, supra scabrae, nervosae, infra glabrae, marginibus basi sparse ciliatae; paniculae 5–8 cm. longae, 8–12 mm. latae, densae, ramis brevibus appressis basi nudis; spiculae 6.5–7.5 mm. longae; glumae acuminatae, purpureae et aureae, apice hyalinae; lemma 5 mm. longum, bifidum, glabrum, costae medio aristatum, arista 7 mm. longa, geniculata, infra geniculam contorta; calli pili densi, lateralibus usque ad 1 mm. longis; rachilla 3 mm. longa, dense pilosa, pilis superioribus longioribus, lemma aequantibus.

Perennial; culms tufted, erect, 20–28 cm. tall; sheaths all longer than the internodes, glabrous or puberulent; ligule 0.8 mm. long, minutely erose; blades firm, erect, involute, 6–15 cm. long, glabrous beneath, strongly nerved and scabrous above, more or less ciliate on the margins toward the base; panicle 5–8 cm. long, 8–12 mm. wide, dense, the short branches appressed, naked at the base; spikelets 6.5–7.5 mm. long; glumes acuminate, purple tinged with gold, the tip hyaline; lemma 5 mm. long, glabrous, deeply bifid, awned from the middle of the back, the awn 7 mm. long, geniculate, tightly twisted below the bend, the callus hairs rather dense, short on the back, as much as 1 mm. long on the sides; rachilla segment 3 mm. long, densely hairy, the hairs on the upper half longer, as long as the lemma.

Type in the U. S. National Herbarium, No. 1353058, collected on Páramo de Santurbán, near Vetás, Department of Santander, Colombia, altitude 3,950–4,160 meters, January 17, 1927, by E. P. Killip and Albert C. Smith (No. 17466).

CALAMAGROSTIS PISINNA Swallen, sp. nov.

Perennis; culmi erecti, caespitiosi, 10–17 cm. alti; vaginae glabrae; ligula 1–2 mm. longa, truncata, hyalina; laminae 2–4 cm. longae, 1–2 mm. latae, planae, minute scabrae; paniculae 3–5 cm. longae, 1–1.5 cm. latae, vix laxae; spiculae 3.5–4 mm. longae; glumae subae-

quales, acutae vel sub-acuminatae, purpureae, carina sparse scabrae, prima 1- vel 3- nervis, secunda 3-nervis; lemma 3 mm. longum, 4-dentatum, costae medio aristatum, arista 6 mm. longa, geniculata, infra geniculam contorta; calli pili sparsi usque ad 0.5 mm. longi; rhachilla 1 mm. longa, dense pilosa, pilis lemma aequantibus; palea hyalina, lemmate paulo brevior, carinis glabris.

Perennial; culms tufted, erect, 10-17 cm. tall. the leaves crowded at the base; sheaths glabrous; ligule 1-2 mm. long, truncate, hyaline; blades 2-4 cm. long, 1-2 mm. wide, flat, minutely scabrous; panicles 3-5 cm. long, 1-1.5 cm. wide, rather lax; spikelets 3.5-4 mm. long; glumes subaequal, acute or subacuminate, dark purple, sparsely scabrous on the keel, the first 1- or weakly 3-nerved, the second 3-nerved; lemma 3 mm. long, 4-dentate, awned from the middle, the awn 6 mm. long, bent, loosely twisted below the bend, the callus hairs sparse, not more than 0.5 mm. long; rachilla segment 1 mm. long, densely hairy, the hairs as long as the lemma; palea very thin, a little shorter than the lemma, glabrous on the keels.

Type in the U. S. National Herbarium, No. 1387801, collected on rocky ridges, higher páramos, near El Gavilón, State of Mérida, Venezuela, altitude 4,200 meters, January 25, 1929, by H. Pittier (No. 13277½).

CALAMAGROSTIS STEYERMARKII Swallen, sp. nov.

Perennis; culmi caespitosi, erecti, 65 cm. alti; vaginae inferiores breves, densae, glabrae, eae culmorum elongatae internodiis longiores; laminae erectae, rigidae, involutae, glabrae, 15-25 cm. longae, suprema reducta; ligula obtusa, decurrens, 2 mm. longa; panicula 18 cm. longa, purpurascens, ramis gracilibus fasciculatis remotis, supra medium ramosis, inferioribus usque ad 11 cm. longis; glumae subaequales, 3-3.5 mm. longae, acutae, glabrae, in carina minute scabrae; lemma 2 mm. longum, obtusum, minute erosum; arista basi inserta, geniculata, infra geniculam contorta, quam lemmate duplo longiore; calli pili densi 1-1.5 mm. longi; rhachilla 0.4 mm. longa, sparse pilosa, apicis pilis lemma aequantibus; palea lemma aequans.

Perennial; culms tufted, erect, 65 cm. tall; lower sheaths short, crowded, glabrous, those of the culm elongate, longer than the internodes; blades erect, stiff, firm, glabrous, involute, 15-25 cm. long, the uppermost one reduced; ligule obtuse, decurrent, 2 mm. long; panicle 18 cm. long, dark purple, the very slender branches in distant fascicles, narrowly ascending, straight or somewhat flexuous, branching above the middle, those of each fascicle of unequal length, the longest 11 cm. long; glumes subequal, 3-3.5 mm. long, acute, deep purple, minutely scabrous on the keel, otherwise glabrous; lemma 2 mm. long, obtuse, minutely rose, awned from the back at the base, the

awn tightly twisted below, geniculate, protruding sideways from the glumes, about twice as long as the lemma, the callus hairs dense, 1–1.5 mm. long; rachilla joint 0.4 mm. long, sparsely hairy, the hairs at the tip as long as the lemma; palea equaling the lemma.

Type in the U. S. National Herbarium, No. 1911637, collected on paramos, in vicinity of Toreador, between Molleturo and Quinoas, Province of Azuay, Ecuador, altitude 3,810–3,930 meters, June 15, 1943, by Julian A. Steyermark (No. 53195).

CALAMAGROSTIS INVOLUTA Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 18–28 cm. alti; vaginae internodiis longiores, glabrae vel sparse retrorse pilosae; laminae 5–10 cm. longae, involutae, glabrae vel sparse retrorse pilosae; paniculae 5–7 cm. longae, 3–6 mm. latae, vix densae, ramis appressis basi nudis, inferioribus usque ad 2 cm. longis; spiculae 5–5.5 mm. longae; glumae purpureae, summo carina scabrae, prima 1-nervis, quam gluma secunda paulo brevior, secunda 3-nervis; lemma 4 mm. longum, minute scabrum, basi aristatum, arista 6 mm. longa, geniculata, infra geniculum contorta; calli pili inconspicui, ca. 0.5 mm. longi; rachilla 1.4 mm. longa, sparse et minute pilosa.

Perennial ; culms densely tufted, erect, 18–28 cm. tall; sheaths longer than the internodes, glabrous or sparsely retrorsely pilose; ligule 0.5 mm. long, decurrent; blades 5–10 cm. long, involute, glabrous or sparsely retrorsely pilose; panicle 5–7 cm. long, 3–6 mm. wide, somewhat dense, the branches closely appressed, naked at the base, the lower ones as much as 2 cm. long; spikelets 5–5.5 mm. long; glumes dark purple, scabrous at the tip at least on the keel, the first 1-nerved, a little shorter than the second, the second 3-nerved; lemma 4 mm. long, minutely scabrous, awned from the base, the awn 6 mm. long, bent or geniculate, tightly twisted below the bend, the callus hairs inconspicuous, about 0.5 mm. long; rachilla segment 1.4 mm. long, sparsely and minutely pilose.

Type in the U. S. National Herbarium, no. 1353180, collected on Páramo de Mogotocoro, near Vetas, Department of Santander, Colombia, altitude 3,700–3,800 meters, January 18, 1927, by E. P. Killip and Albert C. Smith (No. 17618.)

CALAMAGROSTIS BREVIPALEATA Swallen, sp. nov.

Perennis; culmi erecti, basi decumbentes, 85 cm. alti; vaginas internodiis longiores, glabrae, inferiores breves, suprema elongata; ligula obtusa 1 mm. longa; laminae 10–25 cm. longae, 3 mm. latae, glabrae; panicula 15 cm. longa, 2 cm. lata, densa, in parte inferiore interrupta; glumea 5.5–6.5 mm. longae, acuminatae, carina minute ciliatae; lemma 5 mm. longum, glabrum, nervis lateralibus excur-

rentibus; arista vix supra medium inserta, 4.5 mm. longa, geniculata, in parte inferiore contorta hispido-scabra, supra geniculam glabra; calli pili densi ca. 1 mm. longi; rhachilla 1.3 mm. longa, pilosa, pilis superioribus usque ad 2 mm. longis; palea 2 mm. longa, hyalina, marginibus latis, carinis approximatis.

Perennial; culms erect from a decumbent base, 85 cm. tall; sheaths all longer than the internodes, the glabrous lower ones short, the uppermost elongate; ligule obtuse, 1 mm. long; blades 10–25 cm. long, 3 mm. wide, glabrous; panicle 15 cm. long, 2 cm. wide, dense, spikelike, interrupted below; glumes 5.5–6.5 mm. long, acuminate, minutely ciliate on the keel; lemma 5 mm. long, glabrous, the lateral nerves excurrent in awns 0.5–1 mm. long, awned from the back from just above the middle, the awn tightly twisted in the lower part, geniculate, 4.5 mm. long above the bend, hispid-scabrous below, glabrous or nearly so above, the callus hairs dense, about 1 mm. long; rachilla joint 1.3 mm. long, evenly hairy, the hairs from the tip as much as 2 mm. long; palea 2 mm. long, very thin, with broad margins, the keels approximate.

Type in the U. S. National Herbarium, No. 1911528, collected at Cayambe, Province of Pichincha, Ecuador, altitude 2,850 meters, July 16, 1945, by M. Acosta Solis (No. 10359).

CALAMAGROSTIS SCABRIFLORA Swallen, sp. nov.

Perennis; culmi erecti, 120 cm. alti, glabri, vel infra nodos strigosi; vaginae inferiores internodiis longiores, superiores breviores, glabrae vel in parte superiore scaberulae; ligula membranacea, minute ciliata, 2 mm. longa; laminae 30–60 cm. longae, 5 mm. latae, firmae, pungentes, glabrae; panicula 25 cm. longa, 1–1.5 cm. lata, densa, ramis subverticillatis, appressis, in parte inferiore nudis, inferioribus usque ad 8 cm. longis; spiculae breve pedicellatae, pedicellis quam spiculis multo brevioribus; glumae aequales, 3–3.2 mm. longae, acutae, 1-nerves, in carina scabrae; lemma 3 mm. longum, acutum scabrum; calli pili ca. 0.5 mm. longi; arista supra basin 1 mm. inserta, 1.7 mm. longa, geniculata; palea hyalina lemmate vix brevior; rhachilla 0.8 mm. longa, sparse brevi-pilosa.

Perennial; culms erect, 120 cm. tall, glabrous, or strigose below the nodes; lower sheathes longer, the upper shorter than the internodes, rounded, glabrous, or scaberulous toward the summit; ligule membranaceous, minutely ciliate, 2 mm. long; blades 30–60 cm. long, 5 mm. wide, flat or drying involute, firm, pungently pointed, glabrous; panicle 25 cm. long, 1–1.5 cm. wide, dense, the branches subverticillate, appressed, naked below, those of the lowest fascicle as much as 8 cm. long; spikelets short-pedicellate, sometimes sessile, the pedicels much shorter than the spikelets, appressed; glumes equal,

3–3.2 mm. long, acute, 1-nerved, scabrous on the keel; lemma 3 mm. long, acute, scabrous, the callus hairs sparse, about 0.5 mm. long, the awn inserted 1 mm. from the base, 1.7 mm. long, geniculate, protruding from between the glumes; palea thin, hyaline, acute, about as long as the lemma; rachilla about 0.8 mm. long, sparsely short-pilose.

Type in the U. S. National Herbarium, No. 1911639, collected in swampy meadow adjacent to Paramito, at base of Páramo de Tamá, 7 km. above Villapaez, State of Táchira, Venezuela, altitude 2,500 meters, July 14, 1944, by Julian A. Steyermark (No. 57231).

CALAMAGROSTIS SCABERULA Swallen, sp. nov.

Perennis; culmi erecti, 85 cm. alti, scaberuli; vaginae glabrae vel scaberulae, inferiore 8–10 cm. longae, suprema elongata, ca. 30 cm. longa, lamina reducta 9 cm. longa; ligula truncata, decurrens, 1.5 mm. longa; laminae ca. 50 cm. longae, firmae, conduplicatae, basi vagina multo angustiores; paniculae 32 cm. longae, 4 cm. latae, ramis fasciculatis, remotis, adscendentibus vel inferioribus divergentibus, in parte inferiore nudis vel ad basin floriferis; glumae 5–6 mm. longae, acuminatae, angustae, virides et purpureae; lemma 5 mm. longum, scabrum, minute bifidum, nervis lateralibus prominentibus; arista infra apicem 2.5 mm. inserta, 4.5 mm. longa, curvata, non geniculata vel contorta; calli pili 0.1 mm. longi; rachilla ca. 2 mm. longa, gracilis, basi sparse brevi-pilosa; palea lemmate paulo brevior, hyalina, acuta, glabra, marginibus latis, carinis approximatis glabris; antherae 2.3 mm. longae.

Perennial; culms erect, 85 cm. tall, scaberulous; sheaths smooth or scaberulous, the lower ones 8–10 cm. long, the uppermost elongate, about 30 cm. long, reaching to the base of the panicle, with a reduced blade 9 cm. long; ligule truncate, decurrent, 1.5 mm. long; blades about 50 cm long, firm, folded, much narrower at the base than the mouth of the sheath; panicle 32 cm. long, about 4 cm. wide, the branches in rather distant fascicles, ascending, or the lower spreading, at least some of each fascicle floriferous to the base; glumes 5–6 mm. long, acuminate, narrow, green tinged with purple; lemma 5 mm. long, minutely bifid, scabrous, the lateral nerves prominent, the scabrous awn from the back, inserted 2.5 mm. from the tip, 4.5 mm. long, outwardly curved but not twisted or geniculate; callus hairs inconspicuous, 0.1 mm. long, rachilla joint nearly 2 mm. long, slender, glabrous except for a few short hairs at the base; palea nearly as long as the lemma, very thin, acute, glabrous, with broad margins, the keels approximate, glabrous; anthers 2.3 mm. long.

Type in the U. S. National Herbarium, No. 1910934, collected on páramo, Namanda, Ecuador, altitude 2,900 meters, November 24, 1946, by Reinaldo Espinosa (No. 1093).

CALAMAGROSTIS NAIGUATENSIS Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, 50 cm. alti; vaginae glabrae; ligula 4-6 cm. longa, acuta, lata, decurrens; laminae erectae 10-20 cm. longae, conduplicatae, glabrae vel marginibus scabrae; panícula 10 cm. longa, laxa, ramis adscendentibus basi nudis; glumae subaequales, 4-4.5 mm. longae, acutae vel subacuminatae, virides et purpureae; lemma 3.5-4 mm. longum, scabrum, nervis minute excurrentibus, arista supra basin 0.5 mm. inserta, 4.5 mm. longa, geniculata, in parte inferiore contorta; palea lemma aequans, angusta, carinis approximatis minute scabris; rhachilla lemmate duplo brevior, sparse villosa pilis longis; antherae 1.5 mm. longae.

Perennial; culms densely tufted, erect, about 50 cm. tall; sheaths rounded, glabrous; ligule 4-6 cm. long, acute, broad, decurrent; blades erect, 10-20 cm. long, tightly folded, much narrower at the base than the mouth of the sheath, glabrous, or the margins scabrous; panicle about 10 cm. long, open, the branches ascending, naked at the base; glumes subequal, 4-4.5 mm. long, acute or subacuminate, green tinged with purple; lemma 3.5-4 mm. long, scabrous, shallowly lobed, the nerves minutely excurrent, the awn inserted less than 0.5 mm. from the base, 4.5 mm. long, loosely twisted below, geniculate, protruding sideways from the glumes; palea as long as the lemma, narrow, the keels approximate, minutely scabrous; rachilla half as long as the lemma, sparsely villous with long hairs; anthers 1.5 mm. long.

Type in the U. S. National Herbarium, No. 602185, collected in upper belt of Pico de Naiguata, southern slope, State of Miranda, Venezuela, altitude 2,400-2,765 meters, May 24, 25, 1913, by H. Pittier (No. 6495).

CALAMAGROSTIS DIVERGENS Swallen, sp. nov.

Perennis; culmi erecti 50 cm. alti, glabri; vaginae glabrae internodiis inferioribus longiores, superioribus breviores, suprema elongata; ligula hyalina, erosa, 2 mm. longa; laminae 15-20 cm. longae, 5-6 mm. latae, planae, adscendentes, suprema reducta, appressa; paniculae 11-12 cm. longae, ca. 6 cm. latae, ramis rigidis adscendentibus, inferioribus 4-5 cm. longis, basi nudis, ramulis rigide adscendentibus; spiculae 3.2-3.7 mm. longae (plerumque 3.5 mm), pedicellis 1-3 mm. longis glabris; glumae aequales, acutae vel subacuminatae, purpureae, summo carino minute scabrae; lemma 3 mm. longum, scabrum, summo minute laceratum arista ca. 0.6 mm. supra basin inserta, lemma aequante, geniculata, infra geniculam contorta; calli pili sparsi, ca. 0.5 mm. longi; rhachilla 1 mm. longa, summo sparse et minute pilosa; palea lemmate paulo brevior, marginibus latis, carinis approximatis scabris.

Perennial; culms erect, glabrous, 50 cm. tall; sheaths glabrous, the lower longer, the upper shorter than the internodes, the uppermost

elongate; ligule a thin erose membrane 2 mm. long; blades mostly 15–20 cm. long, 5–6 mm. wide, flat, stiffly ascending, glabrous, the margins scabrous, the uppermost reduced, appressed, reaching the base of the panicle; panicles 11–12 cm. long, about 6 cm. wide, open, the branches stiffly ascending, the lower ones 4–5 cm. long, naked below, the branchlets stiffly ascending; spikelets 3.2–3.7 mm. long (mostly 3.5 mm.), the glabrous pedicles 1.3 mm. long; glumes equal or nearly so, acute or subacuminate, purple, glabrous, sometimes minutely scabrous on the keel at the tip; lemma 3 mm. long, scabrous, the tip minutely lacerate, the awn inserted $\frac{1}{5}$ from the base, as long as the lemma, tightly twisted below, geniculate; callus hairs rather sparse, about 0.5 mm. long; rachilla joint 1 mm. long, sparsely minutely pilose at the tip, otherwise glabrous; palea a little shorter than the lemma, with broad thin margins, the keels approximate, scabrous.

Type in the U. S. National Herbarium, No. 1850357, collected on "Páramo de Tamá, arriba de la Cueva, 3100–3200 m. alt.," Department Norte de Santander, Colombia, October 27, 1941, by J. Cuatrecasas, R. E. Schultes, and E. Smith (No. 12604A).

AGROSTIS LEHMANNI Swallen, sp. nov.

Perennis; culmi 45 cm. alti, erecti, basi decumbentes; vaginae internodiis longiores, glabrae, suprema basin paniculae aequans; ligula 7–8 mm. longa, lacerata, pubescens; laminae planae, 6–8 cm. longae, 2.5–3 latae (suprema usque ad 4 mm. lata), acutae, scaberulae; panicula 13 cm. longa, ca. 3 cm. lata, purpurea, densa, paulo laxa, ramis gracilibus adscendentibus vel divergentibus, ad basin floriferis; spiculae 3–3.5 mm. longae; glumae acuminatae, carina scabrae, secunda quam prima paulo brevior; lemma 1.3 mm. longum, glabrum, truncatum, nervis minute excurrentibus, costa medio aristatum; arista 6 mm. longa, geniculata, infra geniculam paulo contorta; palea minuta; antherae 0.6 mm. longae.

Perennial; culms 45 cm. high, erect from a decumbent base; sheaths all longer than the internodes, glabrous, the uppermost reaching the base of the panicle; ligule 7–8 mm. long, lacerate, pubescent; blades flat, 6–8 cm. long, mostly 2.5–3 mm. wide or the uppermost as much as 4 mm., acute, scaberulous; panicle 13 cm. long, about 3 cm. wide, purple, dense but rather lax, the slender branches ascending or somewhat spreading, floriferous to the base or nearly so; spikelets 3–3.5 mm. long; glumes acuminate, the second a little shorter than the first, scabrous on the keel; lemma 1.3 mm. long, glabrous, truncate, the nerves excurrent as minute points, awned from the middle of the back, the awn 6 mm. long, bent, only slightly twisted below the bend; palea minute; anthers 0.6 mm. long.

Type in the U. S. National Herbarium, No. 1856227, collected on Páramo de Puracé, Central Cordillera, Department of Cauca, Colombia, altitude 3,500 meters, May 26, 1944, by E. P. Killip and F. C. Lehmann (No. 38598).

AGROSTIS SCABRIFOLIA Swallen, sp. nov.

Perennis; culmi dense caespitosi, erecti, ca. 55 cm. alti, infra nodos scabri; vaginae internodiis longiores, scaberulae; ligula 2.5-5 mm. longa, obtusa vel subacuta, costa scabra; laminae 10-15 cm. longae, 2-3 mm. latae, rigidae, erectae, scabrae; paniculae 10-15 cm. longae, ca. 8 cm. latae, ramis fasciculatis adscendentibus, in parte inferiore nudis, ramulis et pedicellis divergentibus; spiculae 2.8-3 mm. longae; glumae aequales, acutae, carina scabrae; lemma 2 mm. longum, truncatum, minutissime erosum, glabrum, costa medio aristatum; arista 4 mm. longa, scabra, curvata, non contorta; palea minuta vel obsoleta.

Perennial; culms densely tufted, erect, about 55 cm. tall, scabrous at least below the nodes; sheaths mostly longer than the internodes, scaberulous; ligule 2.5-5 mm. long, obtuse or subacute, often erose, scabrous on the back; blades mostly 10-15 cm. long, stiff, erect, scabrous, flat, 2-3 mm. wide; panicles 10-15 cm. long, about 8 cm. wide, open, loosely flowered, the branches ascending, naked in the lower half, in rather distant fascicles, the lower fascicles with four, the upper with 2 or 3 branches, the branchlets and pedicels somewhat divergent; spikelets 2.8-3 mm. long; glumes equal, acute, scabrous on the keel; lemma 2 mm. long, truncate, very minutely erose, glabrous, awned, the awn about 4 mm. long, bent, not twisted, scabrous; palea minute or wanting.

Type in the U. S. National Herbarium, No. 1850358, collected on Páramo de Tamá, above Cueva, Department Norte de Santander, altitude 3,100-3,200 meters, October 27, 1941, by J. Cuatrecasas, R. E. Schultes, and E. Smith (No. 12608).

TRICHACHNE SERICEA Swallen, sp. nov.

Perennis rhizomatosa, cataphyllis dense pubescentibus; culmi erecti, 25-45 cm. alti, glabri; vaginae internodiis longiores vel breviores, pubescentes et sparse pilosae; ligula ca. 2 mm. longa; laminae 2-5 cm. longae, 2-4 mm. latae, acutae, dense pubescentes; paniculae 9-12 cm. longae, ca. 5 mm. latae, densae, ramis appressis; spiculae 5 mm. longae; gluma prima angusta, acuta vel acuminata, usque ad 1 mm. longa; gluma secunda acuminata, 5-nervis marginibus dense villosa; lemma sterile angustum, 3 mm. longum, 3-nerve, marginibus dense villosum; fructus 4 mm. longus, 0.8 mm. latus, acuminatus, minute papilloso-striatus.

Perennial with long scaly rhizomes, the scales densely pubescent; culms erect, 25-45 cm. tall, glabrous; sheaths longer or a little shorter

than the internodes, pubescent and sparsely pilose; ligule about 2 mm. long; blades 2–5 cm. long, 2–4 mm. wide, acute, densely pubescent; panicle 9–12 cm. long, about 5 mm. wide, dense, the branches closely appressed; spikelets 5 mm. long excluding the hairs; first glume narrow, acute or acuminate, as much as 1 mm. long; second glume acuminate, 5-nerved, densely long villous on the margins; sterile lemma narrow, acuminate, 3 mm. long, 3-nerved, densely villous on the margins; fruit 4 mm. long, 0.8 mm. wide, acuminate, minutely papillose-striate.

Type in the U. S. National Herbarium No. 1912777 collected on sandy campo, Instituto Agronómico do Sul, Pelotas, Rio Grande do Sul, Brazil, April 20, 1946, by Jason R. Swallen (No. 9120).

DIGITARIA PURPUREA Swallen, sp. nov.

Perennis; culmi dense caespitosi, graciles, erecti, 48–65 cm. alti, glabri, internodiis longis; vaginae internodiis multo breviores, dense pilosae vel summo glabrae, infirmae dense villosae pilis luteolis, ligula membranacea, 1–2 mm. longa; laminae involutae vel planae, usque ad 1.5 mm. latae, inferiores elongatae, eae culmi multo breviores, 2–5.5 cm. longae; racemi 2–3, inaequales, 2.5–6 cm. longi, appressi; rhachis 0.2 mm. lata, angulata, plus minusve tortuosa; spiculae 3 mm. longae; binae, paulo remotae, prima sessilis, secunda pedicellata, pedicello 2 mm. longo summo crateriformi; spiculae dense villosae pilis purpureis; gluma prima lata, hyalina, enervis, 0.2–0.4 mm. longa; gluma secunda fructum aequans, 5-nervis; lemma sterile fructu paulo brevius et angustius, 3-nerve; fructus 3 mm. longus, abrupte acutus, purpureus, striatus.

Perennial; culms densely tufted, slender, erect, 48–65 cm. tall, glabrous, with long internodes; sheaths rounded, much shorter than the internodes, densely pilose with fine spreading hairs or glabrous toward the summit, the basal sheaths very densely appressed villous with yellowish hairs; ligule membranaceous, 1–2 mm. long; blades involute or flat, not more than 1.5 mm. wide, the basal ones and those of the innovations elongate, those of the culm much shorter, 2–5.5 cm. long; racemes 2 or 3, very unequal, 2.5–6 cm. long, closely appressed, the rachis about 0.2 mm. wide, angular somewhat tortuous; spikelets 3 mm. long, densely villous with dark purple hairs, paired, the pairs rather distant, one nearly sessile, the other pedicillate, the pedicel 2 mm. long, enlarged at the summit in a minute cup; first glume broad, hyaline, nerveless, 0.2–0.4 mm. long; second glume as long as the fruit, 5-nerved; sterile lemma a little shorter and narrower than the fruit, 3-nerved; fruit 3 mm. long, abruptly narrowed at the summit to an acute crest, striate, dark purple.

Type in the U. S. National Herbarium, No. 1912779, collected on campo, Turma No. 23, Paraná, Brazil, October 10, 1914, by P. Dusén (No. 15670).

DIGITARIA PARVA Swallen, sp. nov.

Annua; culmi graciles erecti, simplices vel ramosi, 18–50 cm. alti, glabri, vaginae internodiis plerumque breviores, compressae, carinatae, glabrae vel sparse pilosae; ligula membranacea, 1–2.5 mm. longa; laminae 4–8 cm. longae, 2–5 mm. latae, acuminatae, glabrae vel sparse pilosae; paniculae 5–9 cm. longae, ramis solitariis, gracilibus, adscendentibus, inferioribus usque ad 6 cm. longis, ramulis divergentibus; spiculae 1 mm. longae, 0.4 mm. latae, plerumque solitariae, pedicellis appressis spiculas fere aequantibus; gluma prima obsoleta; gluma secunda spiculam aequans, 5-nervis, marginibus sparse pilosa, pilis appressis; lemma sterile spicula paulo brevius et angustius, 5-nerve. marginibus et inter nervos pilosum, pilis appressis; fructus 1 mm. longus, fuscescens.

Annual; culms slender, erect, simple or branching, 18–50 cm. tall, glabrous; sheaths mostly shorter than the internodes, compressed, keeled, glabrous or sparsely pilose; ligule membranaceous, 1–2.5 mm. long; blades mostly 4–8 cm. long, 2–5 mm. wide, acuminate, glabrous or very sparsely pilose; panicles 5–9 cm. long, nearly as wide, the slender solitary branches ascending, the lowest as much as 6 cm. long, the branchlets divergent on one side of the branches; spikelets 1 mm. long, 0.4 mm. wide, usually solitary on the branchlets, the pedicels about as long as or shorter than the spikelets, appressed; first glume wanting; second glume as long as the spikelet, 5-nerved, sparsely appressed pilose on the margins; sterile lemma a little shorter and narrower than the spikelet, 5-nerved, appressed pilose between the nerves and on the margins; fruit 1 mm. long, acute, minutely striate, chestnut brown at maturity.

Type in the U. S. National Herbarium, No. 1866866, collected on moist open grassland, Amapá, Pará, Brazil, March 4–6, 1944, by Jason R. Swallen (No. 7002).

DIGITARIA INDUTA Swallen, sp. nov.

Annua; culmi 24–30 cm. alti, erecti, nodis inferioribus ramosis; vaginae internodiis longiores, compressae, papilloso-pilosae, pilis patentibus; ligula ca. 0.8 mm. longa, truncata, minute ciliata; laminae 5–13.5 cm. longae, 3–6 mm. latae, acuminatae, planae, dense villosae; racemi 3, adscendentes, 3.5–8 cm. longi; rhachis 0.3 mm. lata, sparse vel dense pilosa, marginibus scabra; spiculae densae, 1.6–2 mm. longae; gluma prima nulla; gluma secunda fructum aequans vel quam fructu paulo longior, 5-nervis, inter nervos laterales dense hispida, pilis rufis quam spicula longioribus; lemma sterile fructu brevius, 3-nerve,

marginibus et inter nervos dense pubescens; fructus 2 mm. longus, ellipticus, acutus, striatus, ferrugineus.

Annual; culms 24–30 cm. tall, erect, branching from the lower nodes, the branches appressed; sheaths longer than the internodes, somewhat compressed, rather densely papillose-pilose with spreading hairs; ligule about 0.8 mm. long, truncate, minutely ciliate; blades 5–13.5 cm. long, 3–6 mm. wide, acuminate, flat, densely villous on both surfaces; racemes 3, ascending, 3.5–8 cm. long, the rhachis 0.3 mm. wide, wingless, scabrous on the margins, sparsely to rather densely pilose with long spreading hairs; spikelets dense, 1.6–2 mm. long excluding the hairs; first glume wanting; second glume about as long as or a little longer than the fruit, 5-nerved, densely hispid between the lateral nerves, the rufous hairs extending beyond the spikelet; sterile lemma a little shorter than the fruit, 3-nerved, densely pubescent between the nerves and on the margins; fruit 2 mm. long, elliptic, acute, striate, reddish brown.

Type in the U. S. National Herbarium, No. 1612872, collected on bank of small creek in chapada, between Barra do Corda and Grajahú. Maranhão, Brazil, March 1–5, 1934, by Jason R. Swallen (No. 3660),

THRASYA RETICULATA Swallen, *sp. nov.*

Perennis; culmi 1.6 m. alti, erecti dense villosi, pilis appressis, nodis barbatis; vaginae internodiis multo longiores, sparse vel dense papilloso-hispidae; ligula truncata, 1 mm. longa; laminae 40–70 cm. longae, usque ad 1 cm. latae, supra dense villosae, subtus glabrae; racemi terminales et axillares, 16–21 cm. longi; rhachis 0.8 mm. lata; spiculae glabrae, 3 (–3.5) mm. longae; gluma prima unius spiculae obtusa, 0.5 mm. longa, enervis, alterae spiculae angusta, acuta, 1.5–2 mm. longa, 1-nervis; gluma secunda prominente reticulata, 7-nervis, 3 nervis centralibus minute excurrentibus; lemma sterile obscure reticulatum, palea et flosculo masculino includens; fructus 2.7 mm. longus, minute papilloso-striatus.

Perennial; culms 1.6 m. tall, erect, densely villous with appressed or spreading hairs, the nodes densely bearded; sheaths usually much longer than the internodes, sparsely to densely papilloso-hispid, dark brown on the inner surfaces; ligule truncate, 1 mm. long; blades 40–70 cm. long, as much as 1 cm. wide, thickish, rather firm, acute, densely villous above, glabrous or nearly so beneath; racemes terminal and axillary from the upper sheath, 16–21 cm. long, the rachis 0.8 mm. wide; spikelets glabrous, mostly 3 mm. long (rarely as much as 3.5 mm.); first glume of one of each pair of spikelets broad, obtuse, nerveless, 0.5 mm. long, of the other 1.5–2 mm. long, narrow, acute, 1-nerved; second glume 7-nerved, the 3 median nerves excurrent as mucros, conspicuously reticulate veined; sterile lemma 5-nerved, the

nerves not excurrent, obscurely reticulate veined at the summit, enclosing a very well developed palea and a staminate flower; fruit narrowly pyriform, 2.7 mm. long, minutely papillose-striate-roughened.

Type in the U. S. National Herbarium, No. 1612976, collected in wet places along stream in chapada, between Barra do Corda and Grajahú, Maranhão, Brazil, March 1-5, 1934, by Jason R. Swallen (No. 3665).

AXONOPUS ANOMALUS Swallen, sp. nov.

Perennis; culmi erecti 65-75 cm. alti, glabri; vaginae compressae, carinatae, glabrae, summo marginibus ciliatae, inferiores breves, condensatae, superiores elongatae internodiis breviores; ligula membranacea, minute ciliata, ca. 0.3 mm. longa; laminae 10-16 cm. longae 4-6 mm. latae, planae, obtusae, glabrae, marginibus scabrae, basi papilloso-ciliatae, suprema reducta; racemi 3-7, graciles, ascendentes, 5-10 cm. longi, basi pubescentes vel pilosi; rhachis 0.4 mm. lata; spiculae 2 mm. longae; gluma secunda et lemma sterile aequalia, fructu longiora, obscure 5-nervia, pubescentia, summo marginibus longe pilosa, gluma acuta, lemma obtusum; fructus 1.7 mm. longus, oblongatus, subacutus, apice minute pubescens.

Perennial; culms erect, 65-75 cm. high, glabrous, the leaves mostly crowded toward the base; sheaths compressed, keeled, glabrous on the back, usually ciliate on the margins near the summit, the lower ones short, crowded, the upper ones elongate, shorter than the internodes; ligule membranaceous, minutely ciliate, about 0.3 mm. long; blades 10-16 cm. long, 4-6 mm. wide, flat, obtuse, glabrous on both surfaces, the margins scabrous, papillose-ciliate toward the base, the uppermost reduced; inflorescences terminal and axillary from the upper sheath of 3-7 slender, ascending, somewhat distant, racemes 5-10 cm. long, pubescent or pilose at the base, the rachis 0.4 mm. wide; spikelets 2 mm. long, the second glume and sterile lemma equal, slightly longer than the fruit, 5-nerved, the nerves obscure, the mid-nerve suppressed, pubescent or nearly glabrous between the nerves, usually long-hairy on the margins toward the summit, the hairs sometimes exceeding the spikelets, the glumes acute, the sterile lemma obtuse, the margin of the tip scabrous; fruit 1.7 mm. long, oblong, subacute, minutely pubescent at the apex.

Type in the U. S. National Herbarium, No. 1912292, collected on savanna east of Urachiche, State of Yaracuy, Venezuela, altitude 455 meters, May 29, 1944, by Julian A. Steyermark (No. 56846).

PASPALUM DELICATUM Swallen, sp. nov.

Annuum; culmi gracillimi, repentes, 40 cm. longi, nodis inferioribus radicanter, ramosi; vaginae glabrae, internodiis longiores vel breviores;

ligula usque ad 1.4 mm. longa; laminae 5–7 cm. longae, filiformes, tenues, laxae, glabrae; racemus solitarius, 1.5–4 cm. longus, exsertus, pedunculis elongatis filiformibus; spiculae 0.6 mm. longae, binae, obovatae, plano-convexae; gluma secunda elliptica, 3-nervis, glabra, fructu angustior; lemma sterile fructu duplo brevius, obtusum, 3-nerve, glabrum; fructus minute papilloso-striatus.

Annual; culms very slender, delicate, glabrous, about 40 cm. long, decumbent spreading, rooting at the lower nodes, branching from all but the uppermost node; sheaths glabrous, longer or shorter than the internodes; ligule as much as 1.4 mm. long; blades 5–7 cm. long, or the uppermost much reduced or wanting, filiform, soft and lax, glabrous; racemes solitary, 1.5–4 cm. long, arcuate, exerted on long filiform peduncles; spikelets 0.6 mm. long, paired, the pairs short-pedicellate, obovate, plano-convex; second glume elliptic, 3-nerved, glabrous, as long as but somewhat narrower than the fruit; sterile lemma about half as long as and narrower than the fruit, obtuse, weakly 3-nerved, glabrous; fruit minutely papillose-striate.

Type in the U. S. National Herbarium, No. 1125921, collected at La Quebradita, Llano de San Martín, Intendencia of Meta, Colombia, by H. Karsten.

Paspalum delicatum is related to *P. pictum* Ekman, which differs in being coarser, erect, with rather stiff erect blades as much as 2 mm. wide, 2–3 racemes (rarely 1 or 4), and spikelets 1 mm. long, the pairs of spikelets not pedicellate.

PANICUM HISPIDUM Swallen, sp. nov.

Annum (?); culmi ca. 50 cm. alti, papilloso-hispidi; ligula ciliata, 2–3 mm. longa; laminae 15 cm. longae, 8 mm. latae, papilloso-hispidae, marginibus scabrae; paniculae terminales et axillares, terminales 23 cm. longae, 15 cm. latae ramis scaberrimis adscendentibus, ramulis adscendentibus vel divergentibus; spiculae 3.5–3.6 mm. longae, glabrae, pedicellis 2–8 mm. longis divergentibus; gluma prima 2–2.2 (raro 2.8) mm. longa, acuta, 5-nervis, carina scabra; gluma secunda et lemma sterile subaequalia, 5–7 nervia, divergentia; fructus 2.3–2.4 mm. longus, ovato-ellipticus, subacutus.

Annual (?); culms about 50 cm. tall, papillose-hispid at least below the panicle; sheaths papillose-hispid with ascending hairs; ligule ciliate, 2–3 mm. long; blades 15 cm. long, 8 mm. wide, papillose-hispid, the margins very scabrous; panicles terminal and axillary, the terminal 23 cm. long, 15 cm. wide, the very scabrous branches stiffly ascending, the branchlets stiffly ascending or spreading; spikelets 3.5–3.6 mm. long, glabrous, the pedicels 2–8 mm. long, stiffly spreading; first glume 2–2.2 mm. long, rarely 2.8 mm., acute, 5-nerved, scabrous on the keel; second glume and sterile lemma subequal, gaping, rather

abruptly bluntly pointed, 5-7-nerved; fruit 2.3-2.4 mm. long, ovate-elliptic, bluntly pointed, pale, smooth and shining.

Type in the U. S. National Herbarium, No. 1869144, collected at Guinope, Department of El Paraiso, Honduras, altitude 1,981 meters, January 1, 1944, by Juvenal Valerio Rodríguez (No. 1981).

Panicum hispidum is closely related to *P. cayennense* Lam., which differs in being smaller with much more slender panicle branches and smaller spikelets 2-2.2 mm. long.

PANICUM HONDURENSIS Swallen, sp. nov.

Perenne; culmi 50 cm. longi, decumbentes, glabri; vaginae internodiis longiores, in collo pilosae, marginibus summo sparse ciliatae; ligula membranacea, 0.2 mm. longa, minute erosa; laminae planae, lineares, 20-28 cm. longae, 5-11 mm. latae, glabrae vel scaberulae, marginibus scabrae basi sparse ciliatae; panícula 25 cm. longa, 4 cm. lata, ramis gracilibus, angulatis, anguste adscendentibus, inferioribus usque ad 9 cm. longis; spiculae 1.8-1.9 mm. longae, glabrae, solitariae, binae, vel ternatae, in ramulis brevibus, gracilibus; gluma prima spicula duplo brevior, acuta, 3-nervis; gluma secunda et lemma sterile aequalia, subacuta, gluma 3-nervis, lemma sterile 5-nerve palea includens; fructus 1.6 mm. longus, anguste ovato-ellipticus, acutus, glaber.

Perennial (?); culms decumbent spreading, more than 50 cm. long, glabrous; sheaths all longer than the internodes, glabrous on the back, pilose on the collar, the margins sparsely ciliate toward the summit; ligule membranaceous, 0.2 mm. long, minutely erose; blades flat, linear, 20-28 cm. long, 5-11 mm. wide, glabrous or scaberulous, the margins scabrous, sparsely ciliate at the rounded base; panicles loosely flowered, about 25 cm. long, 4 cm. wide, partly enclosed in the sheath, the slender angular branches narrowly ascending, some of the lower ones as much as 9 cm. long; spikelets solitary, binate, or ternate, rather distant on the slender branchlets on one side of the branches, 1.8-1.9 mm. long, glabrous; first glume about half as long as the spikelet, acute, 3-nerved; second glume and sterile lemma equal, subacute, somewhat gaping at maturity, the glume 3-nerved, the lemma 5-nerved; sterile palea well developed but without a staminate flower; fruit 1.6 mm. long, narrowly ovate-elliptic, acute, pale, smooth and shining.

Type in the U. S. National Herbarium, No. 1869140, collected at San Lorenzo, Department of Valle, Honduras, altitude 20 meters, September 10, 1945, by Juvenal Valerio Rodríguez (No. 3323).

This species is allied to *Panicum laxum* Swartz which has smaller, short-pedicellate spikelets, 1-1.2 mm. long, densely crowded on the branchlets, and short, usually stiffly spreading branches.

PANICUM AEQUIVAGINATA Swallen, sp. nov.

Annuum; culmi decumbentes nodis inferioribus radicanter, 85 cm. longi, plurinodosi, internodiis aequilongis, nodis dense pubescentibus; ligula ciliata, 0.5 mm. longa; vaginae internodia aequantes, glabrae, in collo et marginibus dense pubescentes; laminae 6–11 cm. longae, 9.5–16.5 mm. latae, planae, acutae, adscendentes vel appressae, subtus glabrae, supra sparse pilosae, marginibus hispido-ciliatae; panícula longe exserta, 15 cm. longa, 8 cm. lata, ramis gracilibus adscendentibus; spiculae glabrae, 2.5–2.8 mm. longae, pedicellis gracilibus 1–7 mm. longis; gluma prima 1.5–1.7 mm. longa, triangularis, acuta, 3-nervis; gluma secunda et lemma sterile aequalia, 9-nervia, marginibus summo incurvatis; fructus 2 mm. longus, anguste ovalis, acutus, minute striatus.

Annual (?); culms decumbent spreading and rooting at the lower nodes, 85 cm. or more long, glabrous, several noded, the nodes about equally distant densely pubescent; ligule ciliate, 0.5 mm. long; sheaths, except the lower, as long as or slightly longer than the internodes, glabrous on the back, densely pubescent on the collar and along the margins; blades 6–11 cm. long, 9.5–16.5 mm. wide, flat, acute, appressed or ascending, glabrous beneath, sparsely pilose above, the margins hispid-ciliate; panicle long-exserted, 15 cm. long, about 8 cm. wide, the slender branches ascending; spikelets glabrous, 2.5–2.8 mm. long, the pedicles slender, 1–7 mm. long; first glume 1.5–1.7 mm. long, triangular, acute, 3-nerved; second glume and sterile lemma equal covering the fruit, strongly 9-nerved, the margins incurved at the summit; fruit 2 mm. long, narrowly oval, acute, minutely striate.

Type in the U. S. National Herbarium, No. 1910768, collected between Bom Gosto and Olivença, Bahia, Brazil, March 15, 1943, by Ricardo de Lemos Fróes (No. 19950).

ICHNANTHUS CHASEAE Swallen, sp. nov.

Perennis; culmi elongati, arcuati, ramosi, infra nodos pubescentes; vaginae internodiis longiores, glabrae, collo dense pubescentes vel villosae; ligula membranacea, ciliata, ca. 2 mm. longa; laminae 21–34 cm. longae, 10–15 mm. latae, acuminatae, marginibus scabrae; panícula 33 cm. longa, ca. 12 cm. lata, ramis verticillatis rigide adscendentibus, inferioribus usque ad 20 cm. longis, ramulis et pedicellis patentibus; spiculae 3.5–4 mm. longae, scabrae; glumae et lemma sterile aequalia vel subaequalia; gluma prima acuta, 3–5-nervis; gluma secunda subobtusata, 5-nervis; lemma sterile palea bene evoluta includens; fructus 2.9–3 mm. longus, angustus, glaber, alis 0.5 mm. longis.

Perennial (?); culms long, arching, branching, sparsely pubescent at and below the nodes; sheaths longer than the internodes, glabrous, densely pubescent or villous on the collar; ligule a ciliate membrane

about 2 mm. long; blades 21–34 cm. long, 10–15 mm. wide, rounded at the base, acuminate, scabrous on the margins; panicle 33 cm. long, about 12 cm. wide, the branches verticillate, rather distant, narrowly and stiffly ascending, with enlarged pubescent pulvini in the axils, the lower as much as 20 cm. long, the branchlets and pedicels stiffly spreading; spikelets 3.5–4 mm. long, scabrous; first glume as long as or a little shorter than the sterile lemma, acute, 3–5-nerved; second glume and sterile lemma equal, blunt, 5-nerved, the lemma enclosing a well developed palea; fruit 2.9–3 mm. long, narrow, glabrous, the wings 0.5 mm. long.

Type in the U. S. National Herbarium, No. 1762176, collected on dry wooded cliff, between Maracay and Valencia, south side of Lake Valencia, State of Carabobo, Venezuela, altitude 500 meters, March 4, 1940, by Agnes Chase (No. 12340).

Ichnanthus chaseae is related to the following species, differing in having long branching culms, stiff, narrower, glabrous blades, glabrous sheaths, and larger spikelets.

ICHNANTHUS ALTUS Swallen, sp. nov.

Annus (?); culmi 1.6 m. alti, erecti, robusti, infra nodos papilloso-pilosi; vaginae internodiis longiores, glabrae vel dense papilloso-hispidae, marginibus ciliatae, collo dense villosae; ligula membranacea, truncata, 1 mm. longa; partis mediae culmi laminae 30–38 cm. longae, usque ad 4.5 cm. latae, papilloso-pilosae, acuminatae, basi angustae, superiores et inferiores multo reductae; paniculae 45 cm. longae, ramis verticillatis anguste adscendentibus, inferioribus usque ad 20 cm. longis, in parte inferiore sparse ramosis; spiculae 3–3.2 mm. longae, scabrae; gluma prima lata, subcordata, acuta, glumam secundam aequans, 3–5-nervis, marginibus sparse pilosa vel glabra; gluma secunda et lemma sterile aequalia, 5-nervia, cucullata, glabra; fructus 2.3 mm. longus, alis angustis 0.5 mm. longis.

Annual (?); culms 1.6 m. tall, erect, stout, appressed papillose-pilose especially below the nodes; sheaths all longer than the internodes, glabrous to rather densely papillose-hispid, ciliate on the margins, densely villous on the collar; ligule membranaceous, truncate, 1 mm. long; blades of the mid-culm 30–38 cm. long, as much as 4.5 cm. wide, the upper and lower ones much reduced, narrowed toward the base, the apex acuminate, papillose-pilose on both surfaces; panicle 45 cm. long, the narrowly ascending branches in distant verticils, sparingly branched in the lower half, the lower branches as much as 20 cm. long, the upper ones gradually shorter; spikelets 3–3.2 mm. long, scabrous; first glume broad, somewhat clasping, as long as or slightly shorter than the second glume, acute, 3–5-nerved, sparsely pilose on the margins near the summit, or glabrous; second glume and sterile

lemma equal, 5-nerved, cucullate, glabrous; fruit 2.3 mm. long, winged at the base, the wings 0.5 mm. long, half as wide.

Type in the U. S. National Herbarium, No. 1797711, collected at Mitu "orillas rio Vaupés," Comisaría of Vaupés, Colombia, altitude 200 meters, September 13, 1939, by E. Pérez Arbeláez and J. Cuatrecasas (No. 6774).

Ichnanthus altus is related to *I. verticellatus* Mez, which differs in having glabrous spikelets, the first glume two-thirds as long as the spikelet, and glabrous sheaths and blades.

PARIANA SETOSA Swallen, sp. nov.

Perennis; culmi uniformes, ca. 1 m. alti; vaginae internodiis longiores, in ore glandulosae; ligula fusca, ca. 2 mm. longa; laminae lanceolati-acuminatae, 27-30 cm. longae usque ad 5.8 cm. latae, marginibus scabrae, petiolo 8 mm. longo; inflorescentia pendula, 22 cm. longa, apicem versus attenuata; spiculae masculae: glumae 6-8 mm. longae, basi latae, attenuatae, 2-3-nerves, marginibus ciliatae; lemma 6.8 mm. longum, 3 mm. latum, acutum, scaberulum, reticulatum; spiculae femineae alternae, 7 mm. longae; fructus ca. 5.5 mm. longus.

Perennial; inflorescences borne on leafy culms; culms probably about 1 m. tall (base lacking in type); sheaths all longer than the internodes, smooth and shining, with a large glandular area at the mouth; ligule brown, about 2 mm. long; blades lanceolate-acuminate, 27-30 cm. long, as much as 5.8 cm. wide, somewhat narrowed to a rounded base, the margins scabrous, otherwise glabrous, the petiole about 8 mm. long; spike 22 cm. long, drooping, tapering toward the summit; staminate spikelets: glumes 6-8 mm. long, broad at the base, 2-3 nerved, attenuate-pointed, softly ciliate on the margins; lemma 6.8 mm. long, 3 mm. wide, acute, scaberulous, faintly to rather prominently transversely nerved; pistillate spikelets alternate, about 7 mm. long, the fruit about 5.5 mm. long.

Type in the U. S. National Herbarium, No. 1798754, collected in "selva higrofila en la Quebrada del río Afan," Mocoa, Comisaría of Putumayo, Colombia, altitude 570-680 meters, December 27, 1940, by J. Cuatrecasas (No. 11323).

This species differs from all others having large blades and inflorescences on leafy culms, in the long setaceous glumes of the staminate spikelets.

ZIZANIOPSIS KILLIPII Swallen, sp. nov.

Annua; culmi 2 m. alti, basi crassi, succulenti; vaginae elongatae, glabrae, lucidae, inferiores usque ad 5 cm. latae; folii supremi ligula 1.5 cm. longa, membranacea; laminae ca. 1 m. longae, 3.5-5 cm. latae,

sub-attenuatae, marginibus scaberrimae; panicula 75 cm. longa, 30 cm. lata, ramis verticillatis, adscendentibus, inferioribus usque ad 25 cm. longis, basi ad 10 cm. nudis, ramulis gracillimis adscendentibus vel divergentibus; spiculae masculae: lemma 3.5 mm. longum, 5-nerve, glabrum, vel dorso summo scabrum, arista scabra 1.5 mm. longa; palea acuminata, glabra, 4 mm. longa; spiculae femineae: lemma 5-6 mm. longum, 5-nerve, nervis scabrum, arista 4-6 mm. longa, scabra; palea acuminata, lemma aequans, carinis scabra.

Annual; culms 2 m. high, the base thick and succulent; sheaths elongate, the lower as much as 5 cm. broad, glabrous, shiny; ligule of uppermost sheath about 1.5 cm. long, membranaceous, straw-colored; blades about 1 m. long, 3.5-5 cm. long, tapering to the base, the tip rather long-acuminate, strongly scabrous on the margins, otherwise glabrous; panicle about 75 cm. long, about 30 cm. wide, the branches verticillate, ascending, naked at the base for as much as 10 cm., somewhat scabrous, the lower ones as much as 25 cm. long, the branchlets very slender, ascending to somewhat spreading; staminate spikelets; lemma 3.5 mm. long, 5-nerved, glabrous, or sparsely scabrous on the midnerve toward the summit, tapering to a rather stout scabrous awn 1.5 mm. long; palea acuminate, glabrous, 4 mm. long; pistillate spikelets: lemma 5-6 mm. long, 5-nerved, scabrous on the nerves, tapering into a scabrous awn 4-6 mm. long, the palea acuminate as long as the lemma, finely scabrous on the keels; pedicels of pistillate spikelet only slightly thickened upward, the spikelet falling without leaving tiny cup at the tip of the pedicel.

Type in the U. S. National Herbarium, Nos. 1856268 and 1856269, collected in water in dense tidal forest on banks of Quebrada Togoromá, Chocó, Colombia, June 13, 1944, by E. P. Killip and J. Cuatrecasas (No. 39099).

Zizaniopsis killipii resembles *Z. microstachya* (Nees) Doell & Aschers., which is larger, not succulent, the back of the sheaths and lower part of the midrib of the blades is very much thickened and hard, the blades are less than 3 cm. wide, quite firm, and the awns of the pistillate spikelets are only 1-2 mm. long.

ANDROPOGON CORDATUS Swallen, sp. nov.

Perennis; culmi 170 cm. alti, erecti, foliosi; vaginae internodiis paulo breviores, glabrae; laminae 27-30 cm. longae, 15-20 mm. latae, cordatae, attenuatae, glabrae, marginibus scabrae; inflorescentia 50 cm. longa, ramis foliosis, ramis secundariis gracilibus divergentibus; spathae 5-6.5 cm. longae, angustae; pedunculi graciles, 5-8 cm. longi, exserti; racemi 2 (1-3), graciles, flexuosi, pedunculati, 3.5-4.5 cm. longi; rhachis dense pilosa, pilis divergentibus 4 mm. longis; spicula sessilis 4-4.5 mm. longa, 0.5 mm. lata, acuta, glabra, arista gracili,

recta vel flexuosa, 10–15 mm. longa; spicula pedicellata mascula 5–6.5 mm. longa, conspicua; acuta vel acuminata, exaristata.

Perennial; culms erect from a knotty base, 170 cm. tall, leafy; sheaths a little shorter than the internodes, glabrous throughout; blades 27–30 cm. long, 15–20 mm. wide at the cordate base, gradually narrowed to a long attenuate tip, glabrous on both surfaces, the margins scabrous; inflorescence 50 cm. long, very compound, the main branches leafy; the secondary branches slender somewhat spreading; ultimate spathes 5–6.5 cm. long, very narrow; peduncles slender, exerted, 5–8 cm. long, bearing 1–3, usually 2, slender, flexuous, peduncled racemes 3.5–4.5 cm. long; rachis joints and sterile pedicels round, rather conspicuously hairy, more so toward the summit, with white, slender, spreading hairs 4 mm. long; sessile spikelet 4–4.5 mm. long, as long as the rachilla joint, 0.5 mm. wide, acute, glabrous, bearing a slender, straight or somewhat flexuous awn 10–15 mm. long; pedicellate spikelet 5–6.5 cm. long, staminate, purplish, conspicuous, acute or acuminate, awnless.

Type in the U. S. National Herbarium, No. 1760631, collected at edge of forest, Chimore, Cochabamba, Bolivia, altitude 1,000 meters, November 2, 1937, by M. Cárdenas (No. 2083).

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