

THE NORTH AMERICAN SPECIES OF OPLISMENUS.

By A. S. HITCHCOCK.

INTRODUCTION.

This genus of grasses comprises four species in the American tropics and about as many in the tropics of the Old World. All are shade plants with broad flat blades and strongly dorsiventral, creeping sterile shoots. Nearly all the species have been referred to the four genera *Panicum*, *Oplismenus*, *Orthopogon*, and *Echinochloa*, which fact accounts for much of the extended synonymy. One species is found in the United States along the coast from North Carolina to Florida and Texas.

The text figures are natural size.

DESCRIPTION OF THE GENUS AND SPECIES.

OPLISMENUS Beauv.

Oplismenus Beauv. Fl. Owar. 2: 14. pl. 68. f. 1. 1809. A single species, *O. africanus*, is described and figured. The name is occasionally spelled *Hoplismenus*.

Orthopogon R. Br. Prodr. Fl. Nov. Holl. 194. 1810. Four species are described and two, *Panicum hirtellum* and *P. burmanni*, are mentioned in a note as belonging to the genus. The first, *O. compositus*, is accepted as the type because it is based on a Linnaean species (*Panicum compositum* L.), while the other three species are described as new.

Hekaterosachne Steud. Syn. Pl. Glum. 1: 118. 1854. A single species, *H. elatior*, from New Zealand is described. Cheeseman¹ refers this to *Oplismenus*.

Hippagrostis Kuntze, Rev. Gen. Pl. 2: 776. 1891. Kuntze accepts *Hippagrostis* Rumpf.² The type is *Panicum burmanni* Retz.

DESCRIPTION.

Usually weak, freely branching, creeping annuals or perennials with erect or ascending flowering shoots, flat, thin, ovate or lanceolate, asymmetric blades, and one-sided spikelike racemes along a main axis. Spikelets terete or somewhat compressed laterally, sessile, in pairs or solitary in two rows on one side of a narrow, scabrous or hairy rachis. Glumes subequal, emarginate or entire, the midnerve extending into an awn, that of the first longer. Sterile lemma exceeding the glumes and fruit, notched or entire, mucronate or short-awned, inclosing a hyaline palea. Fruit elliptic, acute, the lemma very convex or boat-shaped, the firm margins clasping the palea, inrolled.

The genus consists of four species in the American tropics and about as many more in the tropics of the Old World. One of the American species has been introduced.

The species are shade-loving, growing on the forest floor or in shade of orchards and groves, often forming a carpet.

¹ Man. New Zeal. Fl. 849. 1906.

² Herb. Amboin. 6: 14. pl. 5. f. 3. 1750.

KEY TO THE SPECIES.

- Awns antrorsely scabrous; plants annual.....1. *O. burmanni*
 Awns smooth or obscurely roughened; plants perennial.
 Rachis of racemes mostly 2 to 3 mm. long, bearing usually not more than 5 spikelets;
 blades 1 to 3 cm. long, 4 to 10 mm. wide.....2. *O. setarius*.
 Rachis of lower racemes more than 1 cm. long, bearing usually more than 8 spike-
 lets; blades mostly more than 4 cm. long, 1 to 2 cm. wide.
 Racemes closely flowered, the lower 1 to 2 cm. long.....3. *O. hirtellus*.
 Racemes loosely flowered, the lower 2 to 5 cm. long, the lower pairs of spikelets
 as much as 1 cm. apart.....4. *O. rariflorus*.

1. *Oplismenus burmanni* (Retz.) Beauv.

Panicum hirtellum Burm. Fl. Ind. 24. pl. 12. f. 1. 1768. Not *Panicum hirtellum* L. 1759. "Habitat in Indiis utrisque." The plate is rather crude but evidently represents the species now called *Oplismenus burmanni*.

Panicum burmanni Retz. Obs. Bot. 3: 10. 1783. The name is based on *Panicum hirtellum* Burm., but the species is briefly described and a specimen is said to have been sent by Koenig.

Panicum bromoides Lam. Tabl. Encycl. 1: 170. 1791. "Ex. ins. Franciae. Commers." The type has not been examined, but the reference in the description to hirsute spikes and short blades appears to identify the species with *Oplismenus burmanni*, to which species the name is referred by most authors.

Oplismenus africanus Beauv. Fl. Owar. 2: 15. 1809. The localities given with the description are "Chama, Koto, Oware & Benin," on the coast of Guinea. The plate identifies the species.

Oplismenus bromoides Beauv. Ess. Agrost. 54. 1812. Presumably based on *Panicum bromoides* Lam., though no direct reference to that species is given. Beauvois merely says that *Oplismenus* includes "Panici spec. Lin., etc.," and makes several combinations under *Oplismenus*, one of which is *O. bromoides*.

Oplismenus burmanni Beauv. Ess. Agrost. 54. 1812. Based on *Panicum burmanni* Retz.

Panicum album Poir. in Lam. Encycl. Suppl. 4: 274. 1816. "Cette plant croît à l'île de Java. (V. S. in herb. Desfont.)" The type has not been examined, but the description appears satisfactory for the reference of the name to *Oplismenus burmanni*.

Panicum africanum Poir. in Lam. Encycl. Suppl. 4: 275. 1816. Based on *Oplismenus africanus* Beauv.

Oplismenus albus Roem. & Schult. Syst. Veg. 2: 890. 1817. Based on *Panicum album* Poir.

Orthopogon burmanni Trin. Fund. Agrost. 181. 1820. Based on *Panicum burmanni* Retz.

Oplismenus brasiliensis Raddi, Agrost. Bras. 40. 1823. "Invenitur in montanis prope Tejucco, necnon in Monte nuncupato Corcovado." This is referred by Doell¹ to *Panicum compositum*, but the description applies well to *Oplismenus burmanni* (*Panicum burmanni* of Doell).

Oplismenus affinis Schult. Mant. 2: 273. 1824. "In St. Martha [Colombia]. Bertero." The ample description applies well to *Oplismenus burmanni*.

Panicum lappaceum Willd.; Spreng. Syst. Veg. 1: 306. 1825. Mentioned as a synonym of *Orthopogon burmanni*. The type, collected by Humboldt in "America merid.," has been examined in the Willdenow Herbarium at Berlin.

Orthopogon africanus Sweet, Hort. Brit. 448. 1826. Based on *Oplismenus africanus* "R. S."

Oplismenus humboldtianus Nees, Agrost. Bras. 264. 1829. "Habitat in Brasilia variis locis (Mart.)." Nees considers the Brazilian plant different from the East Indian species and bases the name upon *Oplismenus burmanni* as described by Humboldt, Bonpland, and Kunth.

¹ Mart Fl. Bras. 2²: 146. 1877.

Oplismenus cristatus Presl, Rel. Haenk. 1: 323. 1830. "Hab. in Mexico." The type, in the German University at Prague, is labeled as coming from Luzón.

Oplismenus affinis Presl, Rel. Haenk. 1: 323. 1830. "Hab. in Panama." The name is independent of *O. affinis* Schult. The type has been examined at the German University in Prague. Presl states that it is probably only a variety of *O. cristatus*.

Orthopogon bromoides Loud. Hort. Brit. 25. 1830. Presumably based on *Panicum bromoides* Lam., though no synonymy is cited.

Panicum francoi Steud. Syn. Pl. Glum. 1: 44. 1854. "Franco legit in Oaxaca." The type has not been examined, but the description applies to *Oplismenus burmanni*.

Panicum raddianum Steud. Syn. Pl. Glum. 1: 45. 1854. Based on *Oplismenus brasiliensis* Raddi.

Panicum sanctae-marthae Steud. Syn. Pl. Glum. 1: 45. 1854. "Hrbr. Funck nr. 437. Sancta Martha Venezuelae." The type has not been examined, but the description applies to *Oplismenus burmanni*.

Panicum schultesii Steud. Syn. Pl. Glum. 1: 46. 1854. Based on *Oplismenus affinis* Schult.

Oplismenus humboldtianus β *muticus* Fourn. Mex. Pl. 2: 37. 1886. "Cuernavaca (BOURG. n. 1301)." This collection, as well as Müller 2016 and 2019 cited by Fournier, is represented in the U. S. National Herbarium.

There are several other synonyms in works on Old World floras.

DESCRIPTION.

Plants annual; culms slender, glabrous or pubescent in lines or sometimes pubescent all over, the flowering shoots as much as 40 cm. long, usually 10 to 20 cm. long, ascending or nearly prostrate; sheaths glabrous or papillose-hispid, striate, ciliate on the margin, villous on the collar; ligule a very short membrane, ciliate with hairs about 1 mm. long; blades ovate to ovate-lanceolate, mostly 2 to 5 cm. long, sometimes longer, 1 to 1.5 cm. wide, thin, more or less pubescent or hispid on both surfaces, especially toward the base, usually undulate on the margin; panicle ovoid to linear mostly long-exserted, usually compact, 2 to 5 cm. long, sometimes as much as 10 cm. long, and the spikes more distant, mostly nodding, the main axis villous; racemes 3 to several, appressed or ascending, rather short and thick, white and silky, mostly 8 to 15 mm. long, the spikelets closely set and nearly sessile on the rachis, this softly villous and also beset, especially at the base of the spikelets, with stiff papillose hairs 2 to 3 mm. long; spikelets compressed, whitish, several to many on each rachis; first glume 3-nerved, half as long as the sterile lemma, rather sparsely appressed-villous, notched at the apex, the midnerve extending as a slender, straight, antrorsely scabrous awn 10 to 15 mm. long; second glume similar to the first, a little longer, 5-nerved, the awn shorter; sterile lemma similar to the glumes, about 3 mm. long, compressed above, nearly terete below, about 7-nerved, the lower half often copiously villous, the awn shorter than those of the glumes, commonly 1 to 3 mm. long; fruit smooth and shining, about as thick as wide, pale or brownish, about 2 mm. long.



FIG. 21.—*Oplismenus burmanni*. From Reko 3473 Mexico.

DISTRIBUTION.

Tropics of both hemispheres, introduced in America; common in waste places, along roads, especially in partially shaded places, southern Mexico to northern South America; also in Santo Domingo.

LOWER CALIFORNIA: Sierra de la Laguna, *Brandege* 5 in 1890. Miraflores, *Brandege* 22 in 1890.

SINALOA: Lodiago, *Palmer* 1666 in 1891.

TEPIC: Tepic, *Palmer* 1930 in 1892.

JALISCO: Guadalajara, *Palmer* 463 in 1886; *Hitchcock* 7279. Zapotlán, *Hitchcock* 7250.

COLIMA: Colima, *Palmer* 1258 in 1891; *Orcutt* 4529.

MICHOACÁN: La Correa, *Langlassé* 440. Morelia, *Arsène* in 1909.

VERACRUZ: Zacuapan, *Purpus* 2893. Orizaba, *Müller* 2016.

MORELOS: Cuernavaca, *Pringle* 6209; *Bourgeau* 1301. Yautepec, *Pringle* 11320.

GUERRERO: Acapulco, *Palmer* 35 in 1895.

OAXACA: Cuicatlán, *Nelson* 1649. Guatulco, *Liebmann* 375. Cafetal Concordia, *Reko* 3473.

CHIAPAS: Sierra de Tonalá, *Purpus* 7412.

YUCATÁN: Izamal, *Gaumer* 1038. Calotmul, *Gaumer* 2429. Without locality, *Schott* 55.

GUATEMALA: Amatitlán, *Türckheim* 8787; *Popenoe* 702. Totonicapam, *Seler* 2360. Volcán Pacaya, *Kellerman* 6235. Retalhuleu, *Kellerman* 6266. Ciudad Vieja, *Tejada* 115. Cobán, *Türckheim* 1363. Volcán Chingo, *Shannon* 3672. San Juan Arana, *Heyde & Lux* 6276. Santa Rosa, *Heyde & Lux* 4297. Santa Ana, *Türckheim* 473. Guatemala City, *Hitchcock* 9044, 9052. Without locality, *Heyde* 648.

SALVADOR: La Unión, *Hitchcock* 8790. Volcán San Salvador, *Hitchcock* 8949. San Salvador, *Velasco* 14.

HONDURAS: Amapala, *Hitchcock* 8765. San Pedro Sula, *Thieme* 5581.

NICARAGUA: Masaya, *Hitchcock* 8634, 8660. Ometepe Island, *Smith* 1075. Jinotepe, *Hitchcock* 8725.

COSTA RICA: San José, *Jiménez* 7, 8, 9, 156, 157, 158; *Tonduz* 1811, 3120, 7190, 7233, 7276, 8458, 9841; *Pittier* 3124; *Hitchcock* 8450, 8484. Alajuelita, *Jiménez* 898. La Palma, *Pittier* 731. Santo Domingo, *Tonduz* 7194, 9939. Santa Bárbara, *Pittier* 1678. Surubres, *Biolley* 7002, 17381. Boruca, *Pittier* 4466. Rodeo, *Pittier* 1612. Boca de Zhorquin, *Tonduz* 8637. Zent Farm, *Pittier* 16738. Nicoya, *Tonduz* 13758; *Cooper* 10378. Desamparados, *Tonduz* 1481. Piedra del Convento, *Tonduz* 3653. Turrialba, *Tonduz* 8229. Rodeo de Pacaca, *Pittier* 3330. Carrillo, *Biolley* 3113. Puntarenas, *Hitchcock* 8541, 8542. Atenas, *Hitchcock* 8520. Alajuela, *Jiménez* 704. Río Bebedero, *Jiménez* 738, 741. Hacienda La Colombiana, *Tonduz* 224. Río Blanco, *Lehmann* 1781.

PANAMA: El Boquete, *Hitchcock* 8304. Ancón, *Celestine* 83. Masambí, *Maxon* 4688. Culebra, *Amer. Gr. Nat. Herb.* 421; *Pittier* 2086. Chagres, *Fendler* 363. Bocas del Toro, *Hart* 74. San Felix, *Pittier* 5205. Coclé, *Pittier* 4887. Empire, *Hitchcock* 7951. Matías Hernández, *Pittier* 6822. Balboa, *Killip* 4180.

SANTO DOMINGO: Constanza, *Türckheim* 2883. Maniel de Ocoa, *Türckheim* 3610.

COLOMBIA: Santa Marta, *Smith* 157, 2573. Popayán, *Lehmann* 5936. Cauca, *Lehmann* 2106. Cuesta de Tocotá, *Pittier* 699. Huila, *Pittier* 1272, 1526. Without locality, *Linden* 1559.

VENEZUELA: Caracas, *Rose* 21962. Without locality, *Fendler* 1705.

BRAZIL: Cuyabá, *Malme* 3128.

2. *Oplismenus setarius* (Lam.) Roem. & Schult.

Panicum setarium Lam. Tabl. Encycl. 1: 170. 1791. "Ex Amer. merid.—Commun. a D. Richard." The type, in the Lamarck Herbarium at Paris, is a single culm with several leaves and three racemes.

Oplismenus setarius Roem. & Schult. Syst. Veg. 2: 481. 1817. Based on *Panicum setarium* Lam.

Orthopogon parvifolium Nutt. Gen. Pl. 1: 55, errata. 1818. Nuttall at first referred this to *O. hirtellum* (*Panicum hirtellum* L.), giving the range as Florida to South Carolina. In the errata he changes the name to *O. parvifolium* and gives a new description.

Orthopogon setarius Spreng. Syst. Veg. 1: 306. 1825. Based on *Panicum setarium* Lam.

Oplismenus parvifolius Kunth, Rév. Gram 1: 45. 1829. Based on *Orthopogon parvifolius* Nutt.; placed by Kunth among species dubiae.

Panicum nuttallianum Steud. Nom. Bot. ed. 2. 2: 260. 1841. Based on *Orthopogon parvifolius*.

DESCRIPTION.

Culms slender and lax, the flowering branches ascending or nearly prostrate, usually not more than 10 to 20 cm. long, sometimes as much as 30 cm., glabrous or pubescent in lines; sheaths glabrous, villous on the margin, pubescent about the collar; ligule a very short ciliate membrane; blades ovate to ovate-lanceolate, thin, mostly 1 to 3 cm. long, 4 to 10 mm. wide, sparsely pilose on both surfaces or glabrate; panicle long-exserted, usually not over 5 cm. long, rarely as much as 8 cm., the axis scabrous or puberulent; racemes usually 3 to 5, rarely as many as 8, short and subglobose, distant or the upper approximate, the lower internode sometimes as much as 2 cm. long, the rachis usually 2 to 3 mm. long, rarely as much as 5 mm. long (or a little longer in some United States specimens), puberulent, pubescent, or villous at base; spikelets rarely as many as 8 on a rachis, usually not more than 5, the lowermost sometimes reduced to awns; glumes more than half as long as the sterile lemma, appressed-hispidulous, often more or less pilose along the margin, more or less notched at apex, the first 3-nerved, the awn mostly 4 to 8 mm. long, smooth, the second 5-nerved, the awn much shorter, usually 2 to 3 mm. long; sterile lemma 2 to 3 mm. long, 7-nerved, appressed-pilose above, the awn short or wanting; fruit about 2.5 mm. long.

DISTRIBUTION.

Shaded places along the coast, North Carolina to Florida and Texas; southern Mexico to Guatemala; West Indies; Trinidad to Paraguay.

NORTH CAROLINA: Ocracoke Island, *Kearney* 2321.

GEORGIA: Lumpkin, *Latimer* in 1885. Bainbridge, *Harper* 1235. Brunswick, *Chase* 7086. Union, *Harper* 1084. Georgetown, *Harper* 1746.

FLORIDA: Jupiter, *Curtiss* 5553. Orange County, *Baker* 30. Tampa, *Combs* 1402. Tallahassee, *Nash* 2524. Mouth St. Johns River, *Curtiss* 3595. Old Town, *Combs* 864. Fort Myers, *Hitchcock* 467. Manatee, *Rugel* 379. Miami, *Hitchcock* 672. Eustis, *Chase* 4044. Fellsmere, *Tracy* 9307. Key West, *Blodgett*. Jacksonville, *Curtiss* 4037, 5301. Brevard County, *Fredholm* 5504, 6139. Orange Glade, *Eaton* 593. Sebastian, *Fredholm* 5504. Bartow, *Combs* 1239. Homosassa, *Combs* 968. Grasmere, *Combs* 1044. Palm Beach, *Hitchcock* 2337. Gainesville, *Chase* 4243.

ALABAMA: Mobile, *Mohr* in 1878. Tuscaloosa, *Smith*.

MISSISSIPPI: Ocean Springs, *Tracy* 4533. Biloxi, *Chase* 4361. Nicholson, *Kearney* 366.

ARKANSAS: Fulton, *Bush* 982.

LOUISIANA: Plaquemines County, *Langlois* 53. Houma, *Wurzlöw* in 1913. Burnside, *Combs* 1415.

TEXAS: Houston, *Fisher* 1805; *Hall* 837. Terrell, *Tyler* in 1904. Columbia, *Bush* 299, 1428. Hockley, *Thurrow*. Georgetown, *Palmer* 1339 in 1880. Beckville, *Reverchon* in 1902. San Antonio, *Hitchcock* 5249; *Plank* 57, 95; *Bush* 1218. New Braunfels, *Lindheimer* 1263.

VERACRUZ: Orizaba, *Seaton* 63; *Botteri* 136; *Müller* 2021. Córdoba, *Hitchcock* 6445.

CHIAPAS: Ocuilapa, *Nelson* 3025.

QUINTANA ROO: Cozumel Island, *Millspaugh* 1483.

GUATEMALA: Guatemala City, *Hitchcock* 9110. La Vega, *Heyde & Lux* 6275. Pansamalá, *Türckheim* 1331.

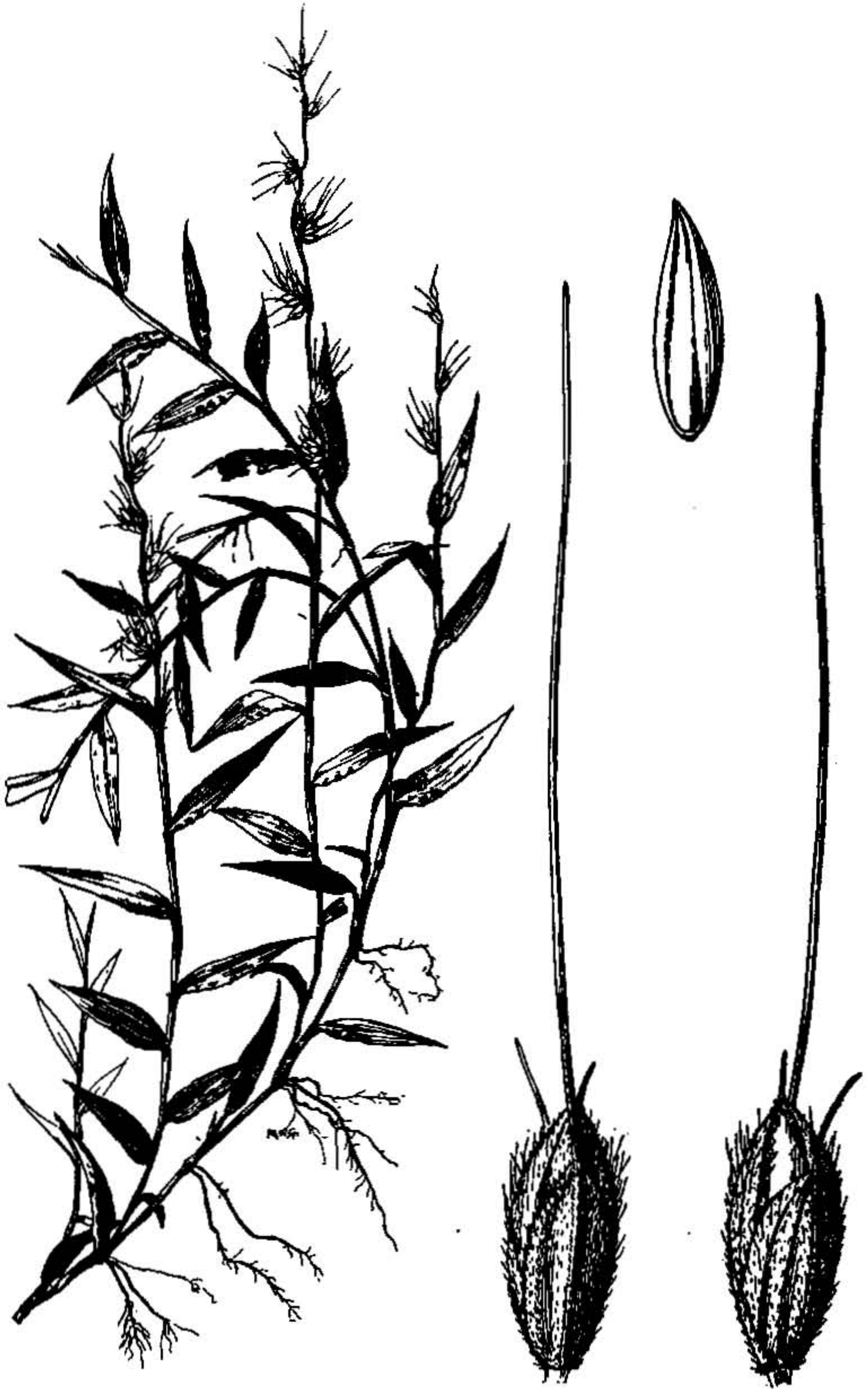


FIG. 22.—*Oplismenus setarius*. From *Hitchcock* 9415, Jamaica.

BERMUDA: *Brown & Britton* 13; *Harris* 424; *Collins* 150.

BAHAMAS: New Providence, *Britton* 3200.

CUBA: Hanábana, *Wright* 1543. Campo Florido, *León* 4139. Cojimar River, on 4720.

JAMAICA: Mount Hybla, *Harris* 11307. Clyde River, *Harris* 11446. Stony Hill, *Harris* 11339. Hardware Gap, *Harris* 11843. Bryans Hill, *Harris* 6826. Castleton, *Harris* 11342; *Amer. Gr. Nat. Herb.* 600. Blue Hole, *Fredholm* 3196. Gordon Town, *Hart* 578. Kingston, *Hitchcock* 9468. Ramble, *Hitchcock* 9521. Abbey Green, *Hitchcock* 9358. Savanna-la-Mar, *Hitchcock* 9871. Barican, *Hitchcock* 9568. Montego Bay, *Hitchcock* 9681. Ipswich, *Hitchcock* 9621. Newcastle, *Hitchcock* 9337. Ewarton, *Hitchcock* 9415. Catherines Peak, *Hitchcock* 9731, 9737. Troy, *Hitchcock* 9783; *Maxon* 2951. Content Gap, *Harris* 11364.

SANTO DOMINGO: *Poiteau* in 1807.

PORTO RICO: Arecibo, *Chase* 6556. Vega Baja, *Chase* 6413. Sierra de Luquillo, *Chase* 6721. Cayey, *Sintenis* 2225, 2286. Mayaguez, *Sintenis* 72b; *Holm* 124. Vieques, *Shafer* 2626; *Chase* 6682. Culebra, *Britton & Wheeler* 106.

VIRGIN ISLANDS: St. Croix, *Rose* 3625; *Ricksecker* 250. Antigua, *Rose* 3485; *Wullschlaegel* 626. St. Thomas, *Eggers*.

LEEWARD ISLANDS: Guadeloupe, *Duss* 2714.

WINDWARD ISLANDS: Martinique, *Duss* 778b.

TRINIDAD: Tabaquite, *Hitchcock* 10126.

ECUADOR: Galápagos Islands, *Stewart* 1283.

BRAZIL: Campinas, *Campos Novaes* 1255, 1290. Bahia, *Riedel*. Novo Niagara, *Edwall* 3864. Curityba, *Dusén* 7906. Rio Grande do Sul, *Lindman* 977, 1569.

PARAGUAY: Pilcomayo, *Rojas* 74. Without locality, *Page* (Paraguay Exped.) in 1854.

3. *Oplismenus hirtellus* (L.) Beauv.

Panicum hirtellum L. *Syst. Nat.* ed. 10. 2: 870. 1759. No locality given. The type, in the Linnaean Herbarium, is from Jamaica, having been sent to Linnaeus by Browne. The specimen is the upper part of a flowering culm with seven racemes and two leaves, with glabrous sheaths.

Milium undulatifolium Moench, *Meth. Pl.* 202. 1794. A garden specimen is described and *Panicum hirtellum* L. is given as synonym. *Panicum undulatifolium* Ard.¹ is not mentioned. Moench's name is evidently independent of that, which has been applied to an Old World species.

Oplismenus hirtellus Beauv. *Ess. Agrost.* 54, 168. 1812. Based on *Panicum hirtellum* L.

Orthopogon hirtellus Nutt. *Gen. Pl.* 1: 55. 1818. The name is based on *Panicum hirtellum* L., but the plant described by Nuttall is *Oplismenus setarius*. In the errata Nuttall changes the specific name to *parvifolium* (see a preceding paragraph under *Oplismenus setarius*).

Panicum velutinum Meyer, *Prim. Fl. Esseq.* 51. 1818. "In nemorosis plantationis Sophienburg," Essequibo. A duplicate type has been examined in the Trinius Herbarium, having been sent to Trinius by Meyer. The sheaths are pubescent.

Oplismenus velutinus Schult. *Mant.* 2: 271. 1824. Based on *Panicum velutinum* Meyer.

Echinochloa cubensis Schult. *Mant.* 2: 596. 1824. This citation has not been verified.

Orthopogon cubensis Spreng. *Syst. Veg.* 1: 307. 1825. "Cuba." The type of this has not been examined.

Oplismenus cubensis Kunth, *Rév. Gram.* 1: 45. 1829. Based on *Orthopogon cubensis* Spreng.

Panicum cubense Steud. *Nom. Bot.* ed. 2. 2: 255. 1841. Based on *Orthopogon cubensis* Spreng.

Oplismenus chondrosioides Fourn. *Mex. Pl.* 2: 39. 1886. "Absque loco (LIEBM. n. 367); Cordova (BOURG. n. 1668, SCHAFFN. n. 281 b.)." The first specimen cited may be taken as the type. This has been examined in the Copenhagen Herbarium. It has hispid sheaths. The name is on the label in Fournier's hand.

¹ *Animad. Spec. Alt.* 14. pl. 4. 1764.

DESCRIPTION.

Plants perennial; culms widely creeping and branching, the flowering culms usually erect from an ascending base, as much as 70 cm. tall but usually about 30 cm., glabrous or somewhat pubescent; sheaths glabrous or densely papillose-hispid; ligule membranous, about 0.5 mm. long, short-ciliate; blades lanceolate or oblong-lanceolate, mostly 5 to 10 cm. long, 1 to 2 cm. wide, rather abruptly narrowed above into an acuminate apex, glabrous or pubescent, papillose-ciliate at base; panicle long-exserted, 5 to 10 cm. long, the main axis pubescent, or the lower part nearly glabrous, the lowest internode commonly about 2 cm. long; racemes mostly 3 to 7, ascending or spreading, rather distant, compact or sometimes rather loose, the lowermost 1 to 2 cm. long, the rachis pubescent and also papillose-hispid; spikelets in pairs, the pairs alternating on two sides of the triangular rachis, appressed-villous or hispid or nearly glabrous, green or, especially the awns, purple; glumes nearly equal, a little more than half as long as the sterile lemma, more or less notched at apex or tapering into the rather stout smooth awn, the first 5-nerved, with an awn 5 to 10 mm. long, the second 7-nerved, the awn once or twice as long as the glume, sometimes shorter; the sterile lemma 2.5 to 3 mm. long, 7-nerved, usually notched at apex, the awn mostly 1 to 2 mm. long, sometimes wanting; fruit 2 to 2.5 mm. long.



FIG. 23.—*Oplismenus hirtellus*.
From *Amer. Gr. Nat. Herb.* 602,
Trinidad.

There are two forms of this species, one with glabrous sheaths and one with hispid sheaths, which appear, when growing, rather distinct. The forms differ in no other way, however, and are found growing together under the same conditions, but all the shoots originating from a given plant are of one form.

A form of *Oplismenus* with variegated foliage, found in the West Indies, appears to belong to *O. compositus* (L.) Beauv., an allied Asiatic species (Guadeloupe, *Duss* 3155; Dominica, *Jones* 37; Martinique, *Duss* 1325; Grenada, *Hitchcock* 17674).

DISTRIBUTION.

Moist woods and shady banks, southern Mexico and throughout the West Indies to South America.

MICHOACÁN: Morelia, *Arsène* in 1909.

VERACRUZ: Minatitlán, *Smith* 575. Sanborn, *Orcutt* 3067. Jalapa, *Hitchcock* 6636, 6637, 6681. Orizaba, *Botteri* 724; *Purpus* in 1903; *Smith* 578. Colipa, *Liebmann* 363, 364. Mirador, *Nelson* 109. Córdoba, *Amer. Gr. Nat. Herb.* 422; *Karwinsky* 965. San Sebastián, *Liebmann* 371. Jicaltepec, *Liebmann* 366.

MORELOS: Cuernavaca, *Pringle* 6203; *Amer. Gr. Nat. Herb.* 423; *Bourgeau* 1302.

TABASCO: San Juan Bautista, *Rovirosa* 67, 83.

MEXICO (Republic of): Without locality, *Liebmann* 366, 367.

GUATEMALA: Laguna de Ayarza, *Heyde & Lux* 3922. Secanquím, *Maxon & Hay* 3154. Guatemala City, *Hitchcock* 9054. Sepacuité, *Cook & Griggs* 225. Trece Aguas, *Goll* 96. Cobán, *Türkheim* 438. Cubilquitz, *Türkheim* 8802.

SALVADOR: Volcán San Salvador, *Hitchcock* 8930. San Salvador, *Renson* 63.

HONDURAS: San Pedro Sula, *Thieme* 323, 5581 in part. Ruatán Island, *Gaumer* 136. Puerto Sierra, *Wilson* 208.

- COSTA RICA: Las Mesas, *Pittier* 3115. Rodeo, *Pittier* 1618. Santa Rosa, *Tonduz* 12272. Mano de Tigre, *Pittier* 4632. Río Unión, *Pittier* 3652. San José, *Hitchcock* 8481, 8500; *Jiménez* 129, 170; *Cooper* 5994. Cartago, *Cooper* 168. Buenos Aires, *Tonduz* 4877. Boruca, *Tonduz* 4465.
- PANAMA: Chiriquí Volcano, *Hitchcock* 8194. Gatún, *Amer. Gr. Nat. Herb.* 424. Bocas del Toro, *Hart* 83. El Boquete, *Hitchcock* 8309, 8312.
- CUBA: Monte Verde, *Wright* 751. Sierra de Anafe, *Wilson* 11332. Río San Miguel, *Wilson* 9280. Río Cayaguanteje, *Shafer* 10444. Woodfred, *Shafer* 3011. Matanzas, *Rugel* 189; *Britton & Wilson* 14016; *Palmer & Riley* 12. Cienfuegos, *Pringle* 76. El Guama, *Palmer & Riley* 146. Vento, *Léon* 556; *Curtiss* 593. San Antonio, *Hitchcock* 489. Santiago de las Vegas, *Hitchcock* 488. Bagamesa, *Eggers* 4655. Guanajay, *Baker* 3461. Isle of Pines, *Curtiss* 268; *Britton & Wilson* 14616.
- JAMAICA: Ferry River, *Harris* 11784, 11787; *Hitchcock* 9748. Temple Hall, *Harris* 11359. Flamstead, *Harris* 11465. Castleton, *Harris* 11607. Hope Gardens, *Harris* 11253. Appleton, *Hitchcock* 9660. Port Antonio, *Millsbaugh* 924.
- SANTO DOMINGO: Without locality, *Wright, Parry & Brummel* 613. Rincón, *Fuertes* 1282.
- PORTO RICO: Aibonito, *Sintenis* 2870. Ponce, *Heller* 6303. Coamo, *Goll* 623. Cayey, *Chase* 6743. Adjuntas, *Chase* 6476. Maricao, *Chase* 6189, 6229; *Sintenis* 72.
- LEEWARD ISLANDS: Guadeloupe, *Duss* 3826, 4056. Dominica, *Jones* 50.
- WINDWARD ISLANDS: Martinique, *Duss* 778. Grenada, *Broadway* 1104, 2918, 4670.
- TRINIDAD: Manzanillo, *Hitchcock* 10368. Port of Spain, *Hitchcock* 9964, 10010, 10197, 10198; *Amer. Gr. Nat. Herb.* 601, 602. Icacos, *Broadway* 4958. Caparo Woods, *Broadway* 4928. Tabaquite, *Hitchcock* 10123. Without locality, *Bot. Gard. Herb.* 1328, 2258, 2259, 3224.
- TOBAGO: *Hitchcock* 10222, 10241, 10252, 10266, 10271; *Broadway* 3996, 4564, 4817.
- COLOMBIA: Huila, *Pittier* 1263. Santa Marta, *Smith* 212, 2168, 2169.
- VENEZUELA: Siquire Valley, *Pittier* 5976. Caracas, *Rose* 21775.
- DUTCH GUIANA: Without locality, *Hostman*.
- BRAZIL: São Paulo, *Edwall* 3865. Blumenau, *Ule* 882. Minas Geraes, *Regnell* 1373, 1375. Bahia, *Salzmann; Riedel* in 1831. Campinas, *Campos Novas* 1289. Rio Grande do Sul, *Malme* 1419. Cuyabá, *Malme* in 1902. Without locality, *Capanema* 740.
- PERU: San Miguel, *Cook & Gilbert* 938.
- BOLIVIA: Yungas, *Bang* 2079; *Rusby* 41.
- PARAGUAY: Central Paraguay, *Morong* 315.
- URUGUAY: Montevideo, *Arechaveleta*.
- ARGENTINA: Misiones, *Ekman* 657.

4. *Oplismenus rariflorus* Presl.

Oplismenus rariflorus Presl, *Rel. Haenk.* 1: 320. 1830. "Acapulco." The type has been examined at the German University of Prague. It consists of a complete flowering shoot.

Oplismenus latifolius Haenke; *Steud. Nom. Bot.* ed. 2. 2: 220. 1841. A herbarium name mentioned as a synonym of *Panicum loliaceum*. The type, from Peru, is *O. rariflorus*.

Panicum parviflorum *Steud. Syn. Pl. Glum.* 1: 45. 1854. "Acapulco." This is based on *Oplismenus rariflorus* Presl, the name changed and the description slightly altered. The synonym cited, *Oplismenus hirtiflorus* Presl, is a slip of the pen, as Presl mentions no species by that name.

Oplismenus liebmanni *Fourn. Mex. Pl.* 2: 38. 1886. "Absque loco (LIEBM. n. 374); Zacuapan (LIEBM. n. 373); in savanis inter La Galera et Pochutla, in declivitate occidentali Cordillcarum (LIEBM. n. 372)." The third specimen cited, *Liebmann* 372, has been examined in the Copenhagen Herbarium.

Oplismenus thiebauti Fourn. Mex. Pl. 2: 39. 1886. "Secus rivulum prope Acapulco (THIÉBAUT n. 1074)." This specimen has not been examined. The description, especially "spiculis remote binatis," and the locality indicate *O. rariflorus*.

DESCRIPTION.

Culms sparingly branched, ascending from a decumbent base, as much as 50 cm. tall but mostly less, glabrous or sometimes pubescent; sheaths glabrous or pubescent, densely ciliate on the margin, villous on the collar; ligule a short ciliate membrane; blades lanceolate or elliptic-lanceolate, mostly about 4 to 7 cm. long, rarely as much as 13 cm., 1 to 2 cm. wide, thin, glabrous, scabrous, or sparsely pilose; panicle long-exserted, the main axis 5 to 15 cm. long, scabrous; racemes several, the lower distant, 2 to 5 cm. long or even 7 cm., ascending, loosely flowered, the rachis scabrous, often villous at base and pilose at the insertion of the spikelets; spikelets scattered, appressed to the rachis, the lower pairs as much as 1 cm. apart; glumes more than half as long as the sterile lemma, glabrous or hispidulous, rarely pilose, tapering into a smooth awn, the first 3-nerved, the awn 3 to 8 mm. long, rarely longer, the second 5-nerved, the awn very short or wanting; sterile lemma 3 mm. long, mostly awnless; fruit 2.5 mm. long.

This species is well distinguished by its long loose racemes.

DISTRIBUTION.

Moist shady places, Mexico and Guatemala; Ecuador and Peru.

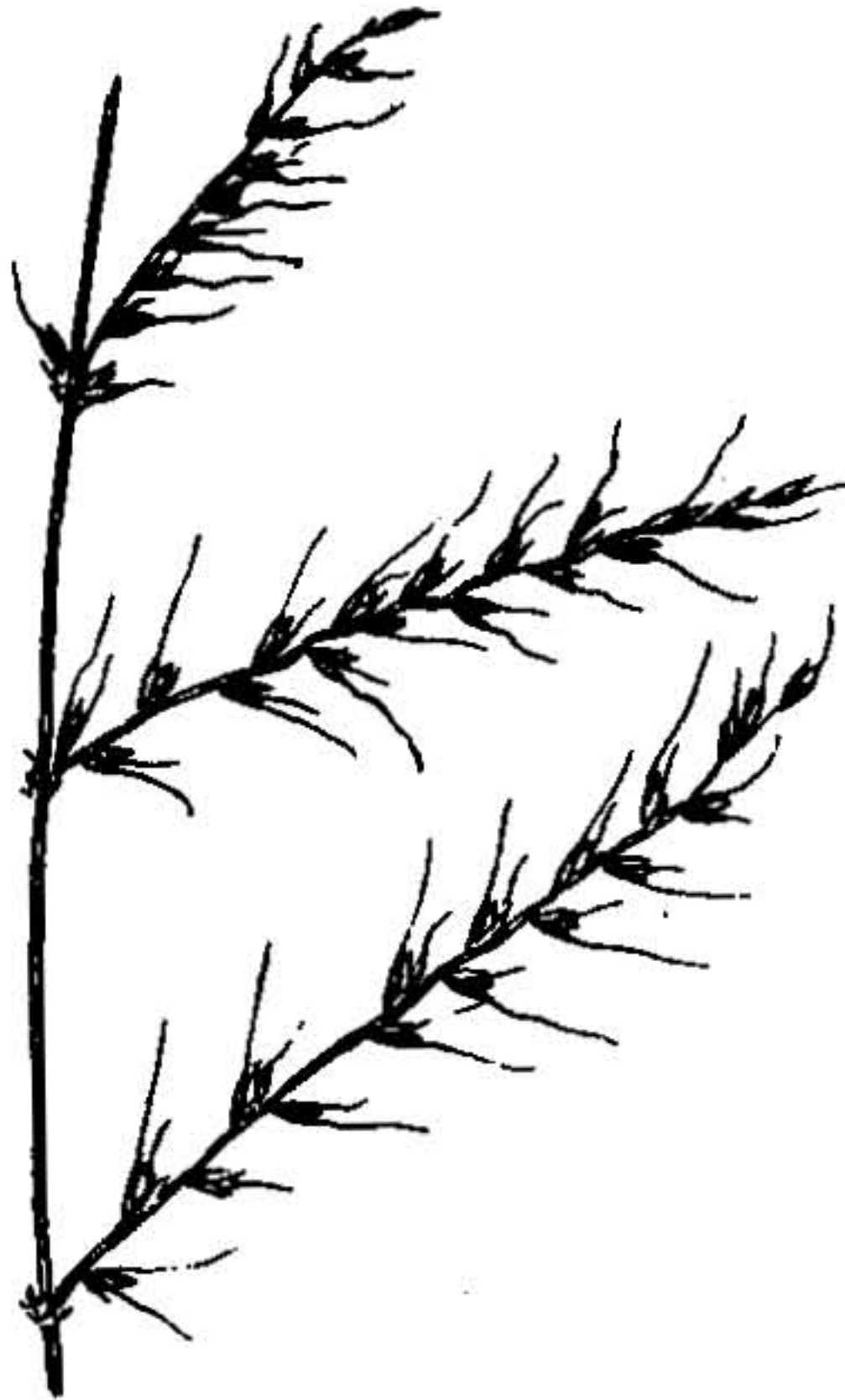


FIG. 24.—*Oplismenus rariflorus*. From Hitchcock 9046, Guatemala.

SINALOA: Lodiago, Palmer 1656 in 1891.

TEPIC: Tepic, Palmer 1931 in 1892.

JALISCO: Zapotlán, Hitchcock 7237.

COLIMA: Manzanillo, Palmer 1090 in 1890.

MICHOACÁN: La Correa, Langlassé 444. Morelia, Arsène in 1909.

OAXACA: Pochutla, Liebmann 372. Reyes, Nelson 1772. Sierra de San Felipe, Pringle 4944.

GUATEMALA: Guatemala City, Hitchcock 9046.

ECUADOR: El Recreo, Eggers 14897.

PERU: Mountains of Huanuco, Haenke (described as *O. loliaceus* Beauv. by Presl).¹

DOUBTFUL SPECIES.

OPLISMENUS DEPAUPERATUS Fourn. Mex. Pl. 2: 38. 1886. "Orizaba (F. MüLL. n. 2019 in meo herbario, SCHAFFN. n. 207 in herb. FRANQ.); in Cordillera Oajacensi (GAL. n. 5847)."

¹ Rel. Haenk. 1: 320. 1830.