

THE STATUS AND DISTRIBUTION OF SOME
CYPERACEAE IN NORTH AND SOUTH AMERICA

HUGH O'NEILL

(Continued from page 64)

CYPERUS POLLARDI BRITTON (= C. DEERINGIANUS BRITTON
AND SMALL) AND C. BLODGETTII BRITTON

C. Blodgettii and *C. Pollardi* may be regarded as distinct, though very closely-related entities, insofar as the type specimens are concerned. The few differences may be summed up as:

Culms 15 to 30 cm. tall, about 1 mm. thick; rays 1 to 6, 1.5 to 6 mm. long; spikelets congested in ovoid or cylindric heads; glumes 1.5 to 2 mm. long; bracts and leaves rarely septate-nodulose.....	<i>C. Blodgettii.</i>
Culms 30 to 100 cm. tall, 2 to 3 mm. thick; rays 3 to 7, 3 to 12 cm. long, rarely contracted at the summit of the culm; spikelets densely congested in ovoid or oblong spikes; glumes 2 to 3 mm. long; bracts and leaves frequently septate-nodulose.....	<i>C. Pollardi.</i>

Unfortunately only 6 additional specimens were found which matched the type of *C. Blodgettii*; all the others examined in this connection were clearly *C. Pollardi*. More material for study might possibly lead to Kükenthal's conclusion, that these 2 species are but one. Due to the paucity of specimens available and to the fact that the type specimens show some differences they are treated here tentatively as distinct species.

The most disconcerting evidence in establishing the status of these species was the fact that Britton determined *Nash 2309* as *C. Pollardi* Britton. This plant quite evidently matches his type of *C. Blodgettii* from Key West and does not conform at all to his type of *C. Pollardi* from Miami.

It may be noted also that two sheets of *C. Pollardi* (in the New York Botanical Garden) so determined by Britton were redetermined and annotated by Kükenthal as *C. Blodgettii*. Britton's subsequent comment on Kükenthal's annotation label is "Not it". Kükenthal, obviously, did not see Britton's type specimen of *C. Blodgettii*; at least he did not annotate the type.

The type specimen of *C. Deeringianus* (*Small, Mosier and Small 6789*, Arch Creek Prairie, Dade Co., Florida in the New York Botanical Garden) is an immature specimen of *C. Pollardi*. This species (*C. Deeringianus*) was reduced to a variety by Fernald and Griscom (*RHODORA* **37**: 152. 1935) and referred to

C. retrorsus Chapm. Superficially, this plant and forms of *C. retrorsus* characterized by having long, branched spikes are nearly indistinguishable. A microscopic examination, however, reveals easily recognizable differences; for instance, the glumes in the type specimen of *C. Deeringianus* are conspicuously spreading, cucullate and commonly yellow in color (exactly as they are in *C. Pollardi* Britton) and narrower and longer than *C. retrorsus* plants which have conspicuously appressed more or less clasping but scarcely cucullate and commonly brown glumes. In *C. Deeringianus* the wings of the rhachilla are narrow (0.1 to 0.3 mm. wide) and very readily deciduous (as in *C. Pollardi*) in the forms of *C. retrorsus* they are wide (0.5 to 0.6 mm.) and persistent. *C. Deeringianus* is clearly *C. Pollardi*.

C. RETRORSUS VAR. MULTIFLORENS KÜKENTH.

This is based upon Chapman's specimen from Caximbas Bay, Florida. Kükenthal's comment is "nicht gesehen". This specimen is in the New York Botanical Garden and has been correctly determined by Britton as *C. Pollardi*. It is also the type of *C. cylindricus* Chapm. *C. Winkleri* is based on an immature type specimen (Small and Mosier 5625) and is identical in every detail with the type and other specimens of *C. Pollardi*.

Mariscus Curtisii (1908) is based upon Rugel 387 from Florida as type specimen and Rugel 440 and 446 and Pollard and Collins 257 as cotypes. This last specimen is also the type of Britton's *C. Pollardi* (1903). All these specimens can, unhesitatingly, be referred to the same species.

The synonymy and distribution of *C. Pollardi* Britton as here understood is:

CYPERUS POLLARDI Britton ex Small, Fl. S. E. States, ed. 1. 1321. 1903. *C. cylindricus* Chapm. Bot. Gaz. 3: 18. 1898 non Britton 1879 non *M. cylindricus* Ell. *C. Deeringianus* Britton et Small ex Small Man. S. E. Fl. 151. 1933. *C. Winkleri* Britton et Small l. c. 152. *C. retrorsus* var. *Curtisii* (C. B. Clarke) Kükenthal in Engler, Pflanzenr. 4²⁰²: 512. 1936. *C. retrorsus* var. *multiflorens* Kükenth. l. c. 513. *Mariscus Curtisii* Clarke, Kew Bull. Add. Ser. 8: 15. 1908. *M. litoreus* Clarke, l. c. 19.—TYPE SPECIMEN: Pollard and Collins 257, Miami, Dade County, Florida, April 4-7, 1898, in the New York Botanical Garden. Photograph in the Langlois Herbarium. FLORIDA: Chapman, Collier's Key at Marco Pass, Caximbas Bay in 1875 (type of *C.*

cylindricus Chapm. and *C. retrorsus* var. *multiflorens* Kükenth.); Correll 6137, 5784, 5933; Cuthbert, Bradenton, 1423; Deam 2755; Garber, St. Augustine, Tampa; Hitchcock 383, 384; Hume, New Smyrna; Miller and Reeves 10; Nash 1268, 1363; O'Neill 2590, 5086, 7249, 7250; Pollard and Collins 257 (TYPE); Rugel 389 and 446 (type and cotype respectively of *Mariscus Curtisii*); Simpson 432 (type of *M. litoreus*); Small and Britton 9331; Small, Caximbas Island; Small and Carter 881; Small and Mosier 5625 (type of *C. Winkleri*); Small, Mosier and DeWinkler, Caximbas Bay; Small, Mosier and Small 6685, 6701, 6789 (type of *C. Deeringianus*); Small, Small and Dewinkler 10591; Tracy 6982; Underwood 2234. GEORGIA: Harper 928. SOUTH CAROLINA: Godfrey and Tryon 303, 1180; Cuthbert, Sea Island; St. Helena Island. CUBA: Shafer 2771 near Porto Barril, Cayo Romano, Camaguez, Oct. 26, 1909; Roig and Cumata 2231, Santa Cristo de Maniadero, July 25, 1920, Cienga de Lapata, Santa Clara, in Bro. Leon's Herbarium.

Below are some typical examples of *C. Blodgettii* Britton:

TYPE SPECIMEN: *Blodgett*, Key West, in the Torrey Herbarium of the New York Botanical Garden. Photograph in the Langlois Herbarium, Catholic University. FLORIDA: *Blodgett*, Key West (type); *Chapman*, southern Florida; *McAtee* 1697; Nash 2309; *Pollard, Collins and Morris* 35; *Small, Britton and DeWinkler* 9371; *Small and Carter* 1178.

CYPERUS STRIGOSUS L. AND VARIETIES.

Large forms of typical *C. strigosus* approach *C. stenolepis* so closely that they cannot be readily separated on the strength of characters usually given; for example, the glumes in both species are equally spreading and involute at maturity; robust forms of *C. strigosus* have leaves just as wide, inflorescences just as much compound and rays just as long as *C. stenolepis*. Such plants as *Harper* 423 and 1552 from Georgia, a specimen collected by *Miss Vail* in Marion, Massachusetts, *Bush* 46 from Missouri, *Larsen* 301 from Delaware and *Dodge* from Port Huron, Michigan (9-17-92) indicate the advisability of considering *C. stenolepis* a variety of *C. strigosus*, as has already been done by Kükenthal [Pflanzenreich 4²⁰: 408. 1936] and by Fernald & Griscom [RHODORA 37: 151. 1935].

The type specimen of *C. Hansenii* is in no respect distinct from robust forms of typical *C. strigosus* and therefore cannot be maintained even as a variety.

Kükenthal describes f. *robustior* as having spikelets as long as 20 mm. Since he limits *C. strigosus* to 10 mm. long, it may be presumed that his concept of the spikelet length is 10 to 20 mm. Fernald gives the length as 20 to 30 mm. Both authors agree on 10 to 25 flowers. When specimens having spikelets 20–30 mm. long are studied they do not show any other distinguishing character except this length of spikelet. *Engelmann's* plant from St. Louis, Missouri, collected in 1845 and *Britton's* from Staten Island in 1879 (both determined by Britton as var. *robustior*) have dense spikes, rather short rays, and only slightly compound inflorescences. *Bush* 6175 from Missouri, another specimen from Oregon Co., Missouri, collected by *Bush* in 1892 and *Hale* 500 from Louisiana have distantly set spikelets and slightly more compound inflorescences. A study of several thousand specimens points out the fact that the length of the spikelet is governed by environmental conditions and is not of any genetic value. Spikelet-length for *C. strigosus* could be arbitrarily set at any other length than those specified and would mean just as much.

Var. *elongatus* and f. *capitatus* differ in only one particular—in that the first has longer rays than the second. It is easy to list a series of specimens grading from one to the other. *Holm's* specimen from D. C., Sept. 1897, is exactly midway between the two plants. It seems best to consider them both as synonymous with *C. strigosus*.

F. *compositus* has been held distinct from the species because of its compound inflorescence. Intergrading forms are abundant. Colonies of *C. strigosus* can readily be found almost anywhere which show that the plant develops a simple inflorescence where it is crowded by other plants, but that the inflorescence is compound where the plants stand in the clear, especially on rich soil, just as trees in dense stands have poorly developed branches while those growing in the open have well-developed branches.

Numerous intermediate forms exist between any two of the varieties which have been placed in the synonymy of *C. strigosus*. This becomes so evident when a large number of sheets are sorted that any attempt to separate these forms seems both impossible and futile.

It is to be noted that in the large collection of *C. strigosus* in the New York Botanical Garden, Britton named only a few

specimens according to the varieties he proposed and in nearly as many cases as not he placed a question mark in lead pencil after the varietal name in his own distinctive hand.

C. B. Clark in 1902 annotated a considerable number of specimens in the New York Botanical Garden but made no mention of any variety.

Chapman's specimen from Florida determined by C. B. Clarke as *Mariscus praelongatus* is *C. odoratus* L. (= *C. ferax* L. C. Rich.). McCarthy 2 from North Carolina was labelled by the collector *C. stenolepis* and determined by Britton as *C. strigosus* var. *compositus*. The specimen really is *C. odoratus* L. Buckley's specimen from the Lower Rio Grande, the type of Britton's var. *gracilis*, is *C. lentiginosus*.

Cyperus Deamii, nom. nov.

C. strigosus var. *multiflorus* Geise, Am. Mid. Nat. 15: 253. 1934, non *C. multiflorus* Steud. nec Small. Perennis. Radices fibrati, 0.5 mm. crassi, plerumque rubri. Rhizoma perbreve. Culmus 4–20 cm. altus, apice circa 1 mm., basi 1–1.5 mm. crassus, vix tuberascens, compresso-trigonus, rectus, rigidus, multistriatus, levis, haud septato-nodulosus. Folia 1–3, culmo breviora vel longiora 2–17 cm. longa, 2–3.5 mm. lata, acuminata, plana, recta, membranacea, marginibus carinaque parce sigillatimque scabra, haud septato-nodulosus, viridia; vaginae rubropurpureae, in fibras dissolutae. Bracteae saepe 3, anthela breviores vel longiores, 3.5–8 cm. longae, 1.5–3.5 mm. latae. Anthela simplex. Rami 5–11, 0 to 6 cm. longi. Spiculae 10–30 mm. longae, 1 mm. latae, 14–20-florae, subdistichae, subcompressae. Rhachilla 0.1 mm. lata, recta, straminea; alae 1.2–1.5 mm. longae, 0.2–0.4 mm. latae, lineari-lanceolatae, hyalinae sine colore, persistentes. Bracteola 1–1.5 mm. longa, 0.8 mm. lata, lanceolata. Prophyllum secundarium 2 mm. longum, 1.0 mm. latum, lineari-lanceolatum. Glumae 3.2–3.8 mm. longae, 1–1.2 mm. latae, anguste oblongo-lanceolatae, mucronulatae, membranaceae, 5–7-nerviae, arcte imbricatae, sero-deciduae, lateribus stramineae vel rubrae, carina virides, marginibus hyalinae. In flore normali stamina 3 (filamenta 2–2.5 mm. longa; antherae 0.5 mm. longae, 0.2 mm. latae, connectivum haud productum); achaenium trigonum, 1.8 mm. longum, 0.5 mm. latum. In flore abnormali stamina 6 (filamenta 2 mm. longa; antherae planae, steriles, variae nimis, 1–1.2 mm. longae, 0.1 mm. late interdum 0.3–0.5 mm. longae, 0.2 mm. latae, connectivum 1.5 mm. productum); achenium abortivum vel parvulum, 6-costatum; stylus vix 0.5 mm. longus; stigmata 4–6, 1.5 mm. longa.

Perennial. Root fibrous, 0.5 mm. thick, often red. Rhizome very short. Culms 4–20 cm. tall, about 1 mm. thick at the trigonous apex, 1 to 1.5 mm. thick above the slightly tuberous-thickened base, trigonous-compressed, erect, rigid, multistriate, smooth, not septate-nodulose. Leaves 1 to 3 on a culm, shorter or longer than the culm, 2 to 17 cm. long, 2 to 3.5 mm. wide, acuminate, flat, erect, membranous, sparingly antrorsely scabrelate on the margins and dorsal midrib, not septate-nodulose, green; sheaths reddish-purple, becoming fibrous. Bracts commonly 3, shorter or longer than the inflorescence, 3.5 to 8 cm. long, 1.5 to 3.5 mm. wide, in other respects like the leaves. Spikelets 10–30 mm. long, 1 mm. wide, subcompressed, subdistichous, 14- to 20-flowered. Rhachilla 0.1 mm. wide, straight, straw-colored, the wings 1.2–1.5 mm. long, 0.2 to 0.4 mm. wide, linear-lanceolate, colorless, hyaline, persistent. Bracteole 1 to 1.5 mm. long, 0.8 mm. wide, ovate. Secondary prophyllum 2 mm. long, 1.0 mm. wide, ovate. Glumes 3.2 to 3.8 mm. long, 1 to 1.2 mm. wide, narrowly oblong-lanceolate, mucronulate, membranous, 5- or 7-nerved, closely imbricate, tardily deciduous, the sides straw-colored or red, the smooth keel green, the margins hyaline, some of the glumes enclosing 3 stamens (filaments 2 to 2.5 mm. long; anthers normal and well developed, 0.5 mm. long, 0.2 mm. wide, the connective not prolonged) and a trigonous achene 1.8 mm. long, 0.5 mm. wide, other glumes enclosing 6 stamens (filaments about 2 mm. long; anthers flat, sterile, variable in size and shape, 1 to 1.2 mm. long, 0.1 mm. wide, sometimes 0.3 to 0.5 mm. long, 0.2 mm. wide, the connective often prolonged as much as 1.5 mm.) and rarely a 6-ribbed undeveloped achene (style less than 0.5 mm. long, its 4 to 6 branches 1.5 mm. long).—TYPE SPECIMEN: *Deam* 51233, Lake Cicott, Cass Co., Indiana in the herbarium of C. C. Deam. DELAWARE: *Commons*, Wilmington (Academy of Natural Sciences of Philadelphia). INDIANA: *Deam* 51233, Sept. 28, 1931, Cass County; *Deam* 53488, Oct. 7, 1932, St. Joseph Co. NEW JERSEY: *Rusby*, Secaucus, Sept. 15, 1890 (New York Botanical Garden).

This remarkable plant appears to be a very interesting abnormality, but at present it is impossible to determine whether it is a hybrid, a galled specimen, or the effect of a virus disease or of some very exceptional environmental factor. It is the only species of *Cyperus* out of some 30,000 specimens examined, which had 6 stamens. *Commons*' specimen from "moist soil", Wilmington, Delaware, suggests an unusual environment in that it has a dwarf specimen of *C. erythrorhizos* (2.5 cm. tall) and two specimens of *Eleocharis obtusa* (3 cm. tall) intimately intertwined

with its roots. If the plant is a hybrid, its appearance would suggest *C. strigosus* × *C. esculentus* or *C. strigosus* × *C. rotundus*.

CYPERUS, SUBGENUS PYCREUS*

C. lanceolatus POIR.

The distribution of *C. lanceolatus* Poir and its variety *compositus* Presl in the United States is somewhat confused in the existing literature. Chapman [Flora of the Southern United States 1860, 1883, 1897] does not mention this species as such but in the first and second edition of his Flora page 506, *C. rivularis* Kunth is described as having "scales pale straw-color . . . nut . . . black and shining . . . Georgia, Florida and westward." The plant meant here by Chapman is undoubtedly not *C. rivularis* but *C. lanceolatus*. In the third edition, Chapman omits all mention of this plant.

Small [Flora of the Southeastern States 165. 1903 and 1913] mentions this plant under the name *C. helvus* Liebm. which Kükenthal rightly refers to synonymy with *C. lanceolatus* var. *compositus*. But this variety does not occur in the Southeastern States. Later Small [Man. S. E. Fl. 146. 1933] lists this plant as *C. densus* Link which is referred by Kükenthal and the present author to synonymy under *C. lanceolatus*. The distribution of this species in the United States is confined to the vicinity of the Gulf Ports where it is apparently rare and probably introduced. The following specimens have been seen:

FLORIDA: *Mary Stipe*, 121 (Cath. U.), Beacon Beach, west of Apalachicola. August 5, 1939. LOUISIANA: *Langlois* (Cath. U.), Point a la Hache P. O., Plaquemines County in 1882.

C. lanceolatus var. *compositus* Presl seems to have been found only once in the United States. The record is:

TEXAS: *V. L. Cory* 24662 (Cath. U.) at Cole Creek, 3 miles east of Field Creek, Llano County, September 20, 1937.

This variety is common in Chihuahua on the other side of the Mexican border.

C. filicinus AND *C. polystachyos*

The pantropical *C. polystachyos* occurs in the West Indies, Mexico, Central and South America. The variety *texensis*

* For a monographic treatment of *Pycneus*, refer to Corcoran, Sister M. Lucy. A Revision of the Subgenus *Pycneus* in North and South America. Contr. Biol. Lab. Cath. Univ. America. No. 37. 1941.

(Torr.) Fern. (= var. *leptostachyus* Boeck.) according to Kükenthal extends from Virginia to the West Indies and from Texas to Ecuador and occurs in the Philippines.

The distribution of *C. filicinus* is given by Kükenthal as Maine to the Gulf of Mexico and the West Indies with salt or brackish marshes as the habitat whereas *C. polystachyos* var. *texensis* is assigned to the margins of swamps and the banks of streams.

After a study of several thousand sheets of these three entities the author has come to the conclusion that the following key expresses the only essential differences between these three plants:

1. Spikelets fasciculate, suberect, forming penicillate clusters at the ends of the rays. *C. polystachyos* var. *typicus*.
Spikelets divaricate, not densely clustered, not penicillate. 2.
2. Achenes oblong, 0.4–0.5 mm. wide, 0.8–1.4 mm. long, rounded or truncate at the apex, more than half the length of the glume (sometimes less in maritime plants); glumes 1.0–1.2 mm. wide, 1.5–2.5 mm. long; spikelets 1.5 (rarely 2) mm. wide; culms 0–75 cm. tall. var. *texensis*.
Achenes obovate-oblong, 0.6–0.7 mm. wide, 1.2–1.4 mm. long, subtruncate at the apex, less than half the length of the glume; glumes 1.0–1.5 mm. wide, 2.0–3.5 mm. long; spikelets 2–3.5 mm. wide; culms 4–45 cm. tall. *C. filicinus*.

So treated, the distribution of *C. filicinus* Vahl stands out clearly and furnishes fairly good grounds for its specific rank which the author had previously doubted [Rhod. 42: 85. 1940]. As here understood, *C. filicinus* is confined to salt or more or less brackish situations along the Atlantic Coast from Maine to North Carolina. All citations by this author or other authors from more southerly localities are not *C. filicinus* even though occurring in salt marshes; e. g.

Langlois' specimens from the Gulf Coast have often been cited as *C. filicinus* but the achenes are narrowly oblong and less than 0.5 mm. wide and therefore are *C. polystachyos* var. *texensis*.

Nash 482 (Eustis, Fla.) cited by Kükenthal as *C. filicinus*, has narrowly oblong achenes (0.4 mm. wide) and glumes only 2 mm. long. It is surely var. *texensis*.

Curtiss 3050 (Indian River, Fla.) the type of *C. filicinus* f. *splendens* Kükenthal has the same narrow achenes and glumes only 2 mm. long. It is merely a luxuriant plant of var. *texensis*.

C. Louisianae Steud. is based on a specimen from Louisiana. Although placed in synonymy with *C. filicinus* by Kükenthal it is really a synonym of var. *texensis* as is plain from Steudel's

description, "achenio oblongo subcylindrico." *C. filicinus* does not grow in Louisiana. The plant mistaken for it is simply var. *texensis* with rather long glumes but with narrowly oblong, not oblong-obovate, achenes.

C. Torreyanus Schult. [Syst. Veg. 2. Mant. 101. 1824] is based upon *C. caespitosus* Torr. non Poir. Torrey, however, had already recognized the fact that he had used a preoccupied name and had renamed *C. caespitosus* as *C. Nuttallii* in 1820. Torrey's type specimen is from New Jersey and is in the New York Botanical Garden. It is undoubtedly *C. filicinus*.

C. Cleaveri Torr. is based on a specimen collected by I. Cleaver in Monmouth County, New Jersey. In the Gray Herbarium there is a half sheet of a dwarfed, attenuate *Cyperus*, labelled *C. Cleaveri*, collected by Cleaver in New Jersey. Photographs will be distributed by the Catholic University. This specimen may be regarded as the type or isotype of *C. Cleaveri* since it fulfills Torrey's description of this species. There are two plants on this half sheet, the one to the right having one and the one to the left having two spikelets. Both are quite clearly depauperate forms of *C. filicinus*. Kükenthal has recognized this plant as a form of *C. filicinus* and it certainly deserves no higher rank. Adams 2497 from Salem County, New Jersey, forms a connecting link between the form *Cleaveri* and *C. filicinus*. *C. Cleaveri* is here treated as a synonym of *C. filicinus*.

C. tenuis Muhlenberg. The description of this species is far too vague to be recognizable. In the Muhlenberg Herbarium at the Philadelphia Academy of Science (folio 44, No. 433, sheet 36) are 3 small specimens of *C. filicinus*. They are not labelled *C. tenuis*, nor is there any specimen in Muhlenberg's collection so labelled. Until Muhlenberg's specimen can be found, it seems impossible to determine the status of *C. tenuis*.

C. BIPARTITUS TORR. [Ann. Lyc. N. Y. 3: 252. 1836.]

This is based on Ingalls' specimen from New Orleans in the New York Botanical Garden. It is merely an attenuate form of *C. rivularis*, not of *C. diandrus* as stated by Kükenthal.

FORMS OF *C. RIVULARIS* KUNTH.

Regarding f. *elongatus* of Boeckeler, varieties *depauperata*, *eluta* and *acutata* of Clarke and subvariety *Mohrii* of Farwell,

the author, after examining several thousand sheets of this species, has reached the conclusion that they are mere responses to differences in environment, amount and kind of sunlight, etc.

CYPERUS RIVULARIS Kunth var. **lagunetto** (Steud.) O'Neill comb. nov. *C. lagunetto* Steud. Syn. 5. 1855. *C. argentinus* Clarke, Jr. Linn. Soc. **21**: 64. 1884. *C. rivularis* subsp. *lagunetto* Kükenth. in Engler, Pflanzenr. **4**²⁰²: 383. 1936. *C. rivularis* subsp. *lagunetto* f. *subacaulis* Kükenth. in Engler Pflanzenr. **4**²⁰²: 384. 1936. *Pycneus lagunetto* Clarke, Engler Bot. Jahrb. **30**, Beibl. 68: 8. 1901.—Achaenium late obovatum vel orbiculare; stamina 3 raro 2. Caeterum sicut species.

This plant, treated as a subspecies by Kükenthal, differs in no respect from the species proper as described by him. However, a series of achenes from the United States and Canada compared with a series from South America shows that the variety *lagunetto* has broadly obovate to subrotund achenes while *C. rivularis typicus* has elliptic to obovate-elliptic achenes. In addition, var. *lagunetto* has 3 or 2 stamens whereas *C. rivularis* has only 2 stamens. These appear to be the only distinctions between *C. rivularis* and *lagunetto* and for this reason the latter is here reduced from a subspecies to a variety.

CYPERUS NIGER Ruiz et Pavon var. **capitatus** (Britton) O'Neill, comb. nov. "*C. diandrus* var. *castaneus* Torr." apud S. Wats. Bot. Calif. **2**: 214. 1880. *C. diandrus* var. *capitatus* Britton, Bull. Torr. Bot. Club, **13**: 205. 1886. *C. flavescens* var. *castaneus* subvar. *capitatus* Farwell, Amer. Mid. Nat. **12**: 118. 1930. *C. niger* var. *castaneus* Kükenth. in Engler Pflanzenr. **4**²⁰²: 344. 1936.

This variety differs from the species and the other varieties in the castaneous color of the glumes and the conspicuously apiculate achenes almost as long as the glumes.

C. diandrus var. *capitatus* is based on Wright 1949 from New Mexico. This specimen is in the New York Botanical Garden.

S. Watson mistakenly referred Californian specimens to *Cyperus diandrus* var. *castaneus* Torr. which is *Cyperus rivularis* Kunth. Kükenthal on the strength of this misdetermination made a new combination *C. niger* var. *castaneus* (S. Wats.) Kükenthal. But a misdetermination does not set up a new entity. Therefore the first valid varietal name for this plant is *C. diandrus* var. *capitatus* Britton. Wright's specimen is quite

clearly neither *C. diandrus* nor *C. rivularis* but a variety of *C. niger*. Hence the necessity for the new combination.

Extension of range of *C. megapotamicus* Kunth to Panama is shown by *Woodson, Allen and Seibert* 1134 (in Mo. Bot. Garden) Finca Lerida, to Boquete, Chiriqui, Panama, elev. 1300–1700 m. Apparently previously recorded only from Brazil, Paraguay, Uruguay and the Argentine.

Extension of range of *C. polystachyos* var. *texensis* (Torr.) Fern. to the Galapagos Islands, is shown by *Bauer* 311 (Gray Herbarium) Chatham Island, Southwest End, Middle Region, June, 1891 (determined as *C. fugax* Liebm.).

Extension of range of *C. rivularis* var. *lagunetto* (Steud.) O'Neill to the Galapagos Islands is shown by *Bauer* 316 (Gray Herbarium) Chatham Island, Southwest End, Middle Region, June, 1891 (determined as *C. tristachyus* Boeckl.).

EXTENSIONS OF RANGE OF OTHER SPECIES OF CYPERUS AND CAREX

CYPERUS SEROTINUS Rottb. *Fogg* 9574 (Univ. of Pa.), tidal marsh along the Delaware River, north-northeast of Oakwood Beach, Southern New Jersey, August 28, 1935. Apparently the first record of this European species in the United States. Dr. Fogg will make further observations to see if this species is persisting.

CYPERUS PILOSUS Vahl was first collected in the United States by the author in 1936 (his no. 9088) (Cath. U.) [RHODORA 40: 74. 1938]. It has since been recollected at another locality in the same parish by D. S. and H. B. Correll, their number 10528. "In water of ditch along a road, 3 miles east of Robert, Tangipahoa Parish, La., August 23, 1938". Apparently the species is becoming established in Louisiana.

CYPERUS GIGANTEUS Vahl. Although not reported from the United States by Kükenthal, this species occurs in Texas [McGivney, *Sister Vincent*. Contr. Biol. Lab. Cath. Univ. 26. 1938]. This range can now be extended to Louisiana by D. S. and H. B. Correll 9546 (Cath. U.) "Low, wet, marshy soil on edge of lake, Jungle Gardens, Avery Island, Iberia Parish. (E. A. McIlhenny says that 300 acres grow naturally on the island). 1938".

CYPERUS DISTANS L. f. appears to be a recent addition to the flora of Mexico and is substantiated by *Hinton, et al* 9496 (Cath. U.) "Manchón, Mina, Guerrero, 1200 m. Habitat, a barranca. Sept. 11, 1936".

CYPERUS PROLIXUS HBK. previously known in the United States only from Louisiana (*Tracy* 397 and 7693), is now known from Texas as shown by *H. B. Parks and V. L. Cory* 11,361 (Texas Agr. Exp. Sta.) "Plant Lice Laboratory, Galveston, Oct. 8, 1934."

CYPERUS OXYLEPIS Nees was reported by the author from the United States [RHODORA 40: 358. 1938]. A second occurrence in Texas is *H. B. Parks and V. L. Cory* 11,520. (Tex. Agr. Exp. Sta.), Matagorda County. The occurrence of this species in Guatemala is substantiated by 4 sheets in the Field Museum: *Standley* 66520, 66567; *Steyermark* 37852, 37860.

CYPERUS SWARTZII (Dietr.) Boeckl. can now be added to the flora of Mexico. This record is based upon *C. L. and Amelia A. Lundell* 7277 (Cath. U.) "In wet area along roadside, San Luis Potosi, Valles, July 1937".

CYPERUS LENTIGINOSUS Millsp. et Chase belongs to the flora of the United States. As records there can be cited these collections from Texas: *Buckley*, Lower Rio Grande; *Nealley*, near Corpus Christi, in 1888 and 1889 and at San Diego; *Runyon* 57, 1122; *Rose and Russell* 24211; *Wolff* 4851.

CAREX CONSPECTA Mackenzie. *Lyonnet* 2132, 2590 and 2720, all in United States National Herbarium and all from the Desierto de Los Leones, Distrito Federal, Mexico, Oct. 23, 1938, is an extension of range. Mackenzie [N. A. Fl. 18: 295. 1935] states this species is "known only from the type locality" i. e. Puebla.

CAREX FRANKII Kunth. *Wynd and Mueller* 550 (Cath. U.) "Sierra del Carmen; Canyon de Sentenela on Hacienda Piedra Blanca; Moist stream side.—Villa Acuña, Coahuila, Mexico. July 6, 1936", is an extension of range. This species apparently has not previously been recorded from Mexico.

CAREX GEOPHILA Mackenzie. Two new records for this species are: Popocapetl, at an elevation of 11,500 ft. "In tufts on dry slopes" (April 16, 1938) *Edward K. Balls* 4249. La Zimienta, Cofre de perote, Vera Cruz at an elevation of 10,500 ft. May 27,

1938 "Dry earth slopes among rocks", *Edward K. Balls* 4645. Both specimens are in U. S. National Herbarium. Probably the first record of this species from Mexico. According to Mackenzie hitherto known only from the "Mountains of New Mexico and Arizona".

CLADIUM californicum (Watson) O'Neill, comb. nov. *Cladium Mariscus* var. *californicum* Wats. Bot. Cal. **2**: 224. 1880. *Mariscus californicus* (Watson) Fern. RHODORA **25**: 51. 1923.

The ruling of the International Botanical Congress mentioned above (under *Mariscus*) necessitates this new combination. In addition to the stations cited originally by Watson and later by Jepson for California, Fernald cites [RHODORA **25**: 51. 1923] specimens from New Mexico and Mexico. To these may be added:

TEXAS: *Moore and Steyermark* 3679, Culberson County, Guadalupe Mountains; *Standley* 40515, Culberson County; *Palmer* 11014, Barksdale, Edwards County. NEW MEXICO: *Cockerell*, Aug. 28, 1902, Roswell; *Standley* 40463, Black River, Eddy County. Abundant, stems 3-4' tall. ARIZONA: *Knowlton* 254, Grand Canyon; *Wooton*, Grand Canyon; *Hitchcock*, Grand Canyon; *Rusby* 852, Grand Canyon; *MacDougal*, D. T. 236, Grand Canyon; *Toumey*, Grand Canyon; *Wooton* 1021, Grand Canyon. CALIFORNIA: *Brewer* 105, Los Angeles County.

The range of *FIMBRISTYLIS MILIACEA* Vahl in the United States is given in the literature as northern Florida. The following additional localities can now be added to this range:

ARKANSAS: *Demaree* 21636 (Cath. U.), pond margin of Rice Prairie, Gillette, elev. 170 ft. June 21, 1940. Last year, Dr. F. J. Hermann determined *Demaree* 13618, an immature specimen as doubtfully this species. His 21636 is mature and unmistakably *F. miliacea* Vahl. GEORGIA: *Eyles* 578, Mt. Arabia, DeKalb County; *Eyles* 6504 (Cath. U.) "Edge of gum-cypress bay, Pembroke, Bryan County, August 30, 1939". *Eyles* 6682 (Cath. U.) "9 miles north of Darien, McIntosh County, November 6, 1939". LOUISIANA: *O'Neill* 8271 (Cath. U.) "In a wet ditch in *Pinus Taeda* woods, Ponchatoula, August 18, 1936".

Langlois Herbarium,

CATHOLIC UNIVERSITY OF AMERICA.