

NEW OR ADDITIONAL RECORDS OF GRASSES IN MARYLAND AND DELAWARE

CLYDE F. REED¹

For many years chrome ore has been imported into the Port of Baltimore, and Canton has been one of several places where the ore has been piled until needed by the various industries in and about Baltimore. Some of the piles have existed in place for several years permitting seeds to germinate and grow, and thus allowing the plants to spread to nearby fields. Well over 200 species of plants have been found by the author and others on these chrome piles, a great many of which have never been recorded in the floras of eastern North America. Some of these species have been collected in Canton as far back as 1890 by Charles C. Plitt, and his collections are in the Reed Herbarium. Therefore, some of these plants have been around Canton for over fifty years.

In this paper only the grasses from the chrome piles will be presented along with some species of grasses from other areas of Maryland and Delaware, the records of which extend the known ranges for these species and are in the main new to Maryland and Delaware.

I wish to thank Agnes Chase and Jason Swallen of the United States National Herbarium for aiding in the identification and verification of these specimens cited below. Specimens of most of the species have been deposited in the U. S. National Herbarium.

There were 31 species of grasses found on the chrome ore piles at Canton this year by the author, 16 of which are new to Maryland and the eastern United States in general. Many of the genera are new to eastern North America. Canton is an industrial area in the southeast corner of the city of Baltimore near the Baltimore County border, and in the past has been considered as being in that county. The ranges of the species as they affect our region only are given, unless the extension is unusual for the known range of a given species. Species marked with an asterisk are new to Maryland.

¹ Reed Herbarium, Baltimore 34, Maryland.

**ERAGROSTIS DIFFUSA* Buckl. This species being found in Maryland extends the range east from Indiana and north from North Carolina. It is a western species which has been introduced occasionally in the Eastern States. (Hitchcock, p. 153, fig. 204.) Maryland specimens: Canton, *Reed 32750*, *Reed 32740*, *Reed 32785* collected Sept. 27, 1953; *Reed 32908*, Oct. 12, 1953, panicle is fewer-flowered than typical plants.

Other species of *Eragrostis* which were found on the chrome ore piles which have been reported previously from Maryland are: *E. cilianensis* (All.) Lutati, *Reed 32711*, Sept. 27, 1953 and *Reed 32893*, Oct. 12, 1953; *E. pectinacea* (Michx.) Nees, *Reed 32905*, Oct. 12, 1953 and *Reed 33029*, Nov. 10, 1953; *E. poaeoides* Beauv., *Reed 32713* and *32792*, Sept. 27, 1953.

**TRIDENS PULCHELLUS* (H.B.K.) Hitchc. This western species is native from California and Nevada to Texas. (Hitchcock, p. 208, fig. 275.) Maryland specimen: Canton, *Reed 32827*, Sept. 27, 1953.

TRIDENS FLAVUS (L.) Hitchc. (*Triodia cuprea* Jacq.) This species was collected in Canton, Aug. 25, 1893 by C. C. Plitt. It has been found many times by the author in other regions of Maryland. Specimen in Reed Herbarium cited above.

**ENNEAPOGON DESVAUXII* Beauv. This western species is native from Utah and Texas to Arizona and south to Argentina. (Hitchcock, p. 227, fig. 304.) Maryland specimens: Canton, *Reed 32907*, Oct. 12, 1953; *Reed 33002*, Nov. 2, 1953.

**SPOROBOLUS PYRAMIDATUS* (Lam.) Hitchc. This species is native from Colorado and Kansas southeastward to southern Florida, Louisiana and Texas, and thence to tropical America. (Hitchcock, p. 424, fig. 608.) Maryland specimens: Canton, *Reed 32766*, Sept. 27, 1953.

**ARISTIDA ADSCENSIONIS* L. This species is native from California to Texas and Missouri. (Hitchcock, p. 468, fig. 685.) Maryland specimens: Canton, *Reed 32752*, and *Reed 32826*, Sept. 27, 1953.

**TRAGUS RACEMOSUS* (L.) All. Although this is an Old World species, it has spread from Arizona to Texas in western United States and from Maine to North Carolina in eastern United States. (Hitchcock, 484, fig. 713.) New to Maryland: Canton, *Reed 32800*, Sept. 27, 1953.

**LEPTOCHLOA DUBIA* (H.B.K.) Nees. This is another western species, being native from Arizona to Oklahoma and Texas. (Hitchcock, p. 491, fig. 721.) Maryland specimens: Canton, *Reed 32751*, Sept. 27, 1953.

**CHLORIS VIRGATA* Swartz. This species is native in central and southwestern United States and has been introduced in several states in eastern areas as far as Florida, North Carolina and Ohio. It has been found on wool waste in Massachusetts and Maine. Now from chrome ore piles it can be recorded from Maryland: Canton, *Reed 32714*, Sept. 27, 1953. (Hitchcock, p. 527, fig. 764.)

**BOUTELOUA BARBATA* Lag. This is another western species, native from California and Utah to Texas. (Hitchcock, p. 538, fig. 781.) Maryland specimens: Canton, *Reed 32824*, Sept. 27, 1953.

**BOUTELOUA ARISTIDOIDES* (H.B.K.) Griseb. This species is native from California and Nevada to western Texas. (Hitchcock, p. 533, fig. 772.) Maryland specimens: Canton, *Reed 32727*, Sept. 27, 1953.

**ERIOCHLOA GRACILIS* (Fourn.) Hitchc. This western species is native from southern California along the Rio Grande to western Texas and Oklahoma. (Hitchcock, p. 590, fig. 850.) Maryland specimens: Canton, *Reed 32728*, Sept. 27, 1953.

**BRACHIARIA ERUCAEFORMIS* (J. E. Smith) Griseb. This Old World species has been cultivated in grass gardens and is occasionally escaped. (Hitchcock, p. 593, fig. 857.) However, from the chrome ore piles are the following Maryland specimens: Canton, *Reed* 32763, Sept. 27, 1953.

**PASPALUM DISTICHUM* L. In eastern United States this species is known from Pennsylvania and New Jersey south to Florida. However, it is found through the South and thence to western United States. New to Maryland is the following record: Canton, *Reed* 32749, Sept. 27, 1953. (Hitchcock, p. 603, fig. 866.) *Paspalum circulare* Nash is also found on the chrome ore piles at Canton, *Reed* 32810, Sept. 27, 1953.

**SETARIA GRISEBACHII* Fourn. This is a weed, native from Texas to Arizona and Mexico. (Hitchcock, p. 724, fig. 1103.) Maryland specimens: Canton, *Reed* 32731, Sept. 27, 1953; *Reed* 32909, Oct. 12, 1953.

Setaria lutescens (Weigel) Hubb. (*Reed*, 32799, Sept. 27, 1953) and *S. verticillata* (L.) Beauv. (*Reed* 32674, Sept. 27, 1953) have also been found on the chrome ore piles at Canton.

SORGHUM VULGARE Pers. and **S. vulgare* var. *technicum* (Koern.) Jav. were both found on the chrome ore piles at Canton, Maryland. Sorghum is usually cultivated in the South and has escaped in waste places there. The variety *technicum* is the one used in the making of brooms. Maryland specimens: Canton, *Reed* 32761, Sept. 27, 1953 and *Reed* 32753 (var. *technicum*), Sept. 27, 1953.

SORGHUM HALEPENSE (L.) Pers. also grows on the chrome ore piles, being found elsewhere in Maryland as well. Canton, *Reed* 32741, Sept. 27, 1953 and *Reed* 32683, Oct. 2, 1953.

There are several other species of grasses on the chrome ore piles which have been reported previously from other places in Maryland. These are: *Phragmites communis* Trin. (*Reed* 33034, Nov. 10, 1953); *Triticum aestivum* L. (*Reed* 32672, Sept. 27, 1953); *Hordeum vulgare* L. (*Reed* 32825, Sept. 27, 1953); *Eleusine indica* (L.) Gaertn. (*Reed* 32717, Sept. 27, 1953); *Dactyloctenium aegyptium* (L.) Beauv. (*Reed* 32718 and 32720, Sept. 27, 1953); *Cynodon dactylon* (L.) Pers. (*Reed* 32784, Sept. 27, 1953; *Reed* 32914, Oct. 12, 1953; *Reed* 32696, Sept. 27, 1953 (along shores near chrome piles)); *Phalaris canariensis* L. (*Reed* 32887, Oct. 12, 1953); *Panicum dichotomiflorum* Michx. (*Reed* 32748, Sept. 27, 1953).

Several other grasses worthy of mention as being new or as extensions of ranges are the following from various regions of Maryland or Delaware.

**BROMUS RIGIDUS* Roth. Fernald gives "Maryland and D. C."; Hitchcock gives "Maryland and Virginia"; the other publications mention Maryland; Tatnall does not list it from Delaware. Therefore, new to Delaware—Edge of Indian River, west of Millville, Sussex County. June 28, 1953. *Reed* 31529.

**BROMUS JAPONICUS* Thunb. var. *PORRECTUS* Hack. Although this species is stated by all references as being found in Maryland, references to Delaware are absent. Hitchcock mentions that this variety is more common from Maryland and southward. New to Delaware—Edge of Indian River, west of Millville, Sussex County. June 28, 1953. *Reed* 31528.

ARRHENATHERUM ELATIUS var. *BULBOSUM* (Willd.) Spenner. Although Hitchcock does not include either Maryland or Delaware in the distribution of this species or variety, it has been listed from Maryland by Chase in Hermann, by Norton and Brown and by Fernald and from Delaware (Sussex Co.) by Tatnall. An additional record from Delaware: roadside, off route no. 26, between Dagsboro and Millville, Sussex Co., June 28, 1953. *Reed* 31515.

ARTHRAxON HISPIDUS (Thunb.) Makino. This species is reported as rare in Maryland, being listed in Hitchcock from near Washington, D. C. To this record may be added the following. Fields, Cub Hill, Baltimore County. Oct. 15, 1953. *Reed 33143*. *A. hispidus* var. *cryptatherus* (Hack.) Honda is stated to be the more widely distributed form in eastern United States, from Pennsylvania to Florida and westward to Missouri and Louisiana.

FESTUCA ARUNDINACEA Schreb. Hitchcock is the only reference cited that mentions this species as being found in eastern United States (Maine, Massachusetts, New York, Ohio, Kentucky and westward). Fernald does not even mention it from that region. New to Delaware: roadside, off route no. 26, between Dagsboro and Millville, Sussex Co., June 28, 1953. *Reed 31510*.

TRIPLASIS PURPUREA (Walt.) Chapm. This species has been listed by Chase in Hermann from Maryland and by Tatnall from Delaware. An additional record from Delaware is—sandy beach, Broadkill Beach, Sussex Co. Aug. 31, 1952. *Reed 30449*.

DANTHONIA SERICEA Nutt. This species is listed by Tatnall from Sussex County, Delaware and southward. Hitchcock (p. 310) listed it from both Maryland and Delaware. Additional material may be cited: open wet fields, Gray's Creek, just north of Gibson Island, Anne Arundel County, Maryland. July 7, 1951. *Reed 25958*. Fernald (p. 150) gives the range of this species as "Florida and Louisiana to New Jersey and southern Kentucky." Hitchcock extends its range to Massachusetts (Sherborn) along the Coastal Plain.

ARUNDINARIA TECTA (Walt.) Muhl. The range for this species is given by Hitchcock from southern Maryland to Alabama and Mississippi on the Coastal Plain. In northcentral Maryland in the Piedmont Region but on a Coastal recess at about 400 feet altitude there are several coastal plants, among them being this bamboo. This record extends the range northward in Maryland as well as up upon the Piedmont Plateau. Patch about four acres, swampy place along Harford Road, one-half mile north of Carney, Baltimore County. Aug. 19, 1951. *Reed 26865*.

POLYPOGON MONSPELIENSIS (L) Desv. The range for the Rabbit's-foot Grass on the Delmarva Peninsula is given by Tatnall (p. 31) as "from Cape Charles northward to Worcester and Wicomico Counties." Within this range I wish to report the following collections: marshy land, Chincoteague Island, Accomac County., Virginia. Aug. 16, 1947. *Reed 9150* and July 12, 1953. *Reed 31752* and *31753*. Then, I wish to extend the range northward and westward on the Delmarva Peninsula to Dorchester County: edge of woods, between Drawbridge and Bucktown, Maryland. June 28, 1953. *Reed 31600*.

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