

pinnatis, segmentis ultimis linearibus vel lineari-lanceolatis plerumque distantibus; soris 0.3–0.8 mm. diametro submarginalibus.—North-eastern region of the Table-top Range, Gaspé County, QUEBEC: crevices of granitic rock, altitude 750–1050 m., easterly and northerly slopes of Table-top Mountain, August 9, 1906, *Fernald & Collins*, no. 151 (small plants of exposed situation); forming extensive areas in alluvium of alpine brooks, easterly and northerly slopes of Table-top Mountain, August 9, 1906, *Fernald & Collins*, no. 151a (large plants up to 9 dm. high)—nos. 151 and 151a distributed as *Phegopteris alpestris* and cited by Butters as *A. alpestre*, var. *americanum*; alpine and subalpine meadows and brooksides at about 1100 m. alt., north-eastern slope of Mt. Dunraven, August 2, 1923, *Fernald, Dodge & Smith*, no. 25,384 (TYPE in Gray Herb.); brooksides and meadows at about 975 m. alt., above the cascades, head of Gorge of Northeast Branch of Rivière Ste. Anne des Monts, August 5, 1923, *Fernald, Dodge & Smith*, no. 25,385; subalpine meadows on eastern base (alt. about 900 m.) of Mt. Au Clair, August 10, 1923, *Fernald & Smith*, no. 25,386; nos. 25,384–25,386 distributed as var. *americanum*.

The type-specimen, photographed by Professor Collins, is illustrated in pl. 168.

Var. AMERICANUM Butters, RHODORA, xix. 204 (1917), excluding plant of Quebec. *A. americanum* (Butters) Maxon, Am. Fern. Journ. viii. 120 (1918), where a type-specimen is designated (*Heacock*, no. 554).—Alaska to Colorado, Nevada and California.

The type-specimen is illustrated in pl. 167; other specimens in pl. 163 and 164.

EXPLANATION OF PLATES 161 TO 168

(Photographs by J. F. Collins)

161, *ATHYRIUM ALPESTRE* from Switzerland; 162, from Iceland. 163, *A. ALPESTRE*, var. *AMERICANUM* from Tulare Co., California, *Culbertson*, no. 9538; 164, from Tuolumne Meadows, California, *Smiley*, no. 810. 165 and 166, *A. ALPESTRE* from Newfoundland, *Wiegand, Gilbert & Hotchkiss*, no. 27,243. 167, TYPE of *A. ALPESTRE*, var. *AMERICANUM*, from Selkirk Mts., British Columbia, *Heacock*, no. 554. 168, TYPE of *A. ALPESTRE*, var. *GASPENSE*, from Gaspé Co., Quebec, *Fernald, Dodge & Smith*, no. 25,384.

(To be continued.)

THE GRASS GENUS DIGITARIA

KENNETH K. MACKENZIE

IN the June 1927 number of RHODORA Dr. A. S. Hitchcock has an article concerning "The Validity of the Grass Genus Digitaria." This genus originated with Heister, and was successively taken up by various authors, namely by Fabricius in 1759, Adanson in 1763,

Haller in 1768 and Scopoli in 1772. Each and every one of these authors attributed the genus to Heister. In going into this matter Prof. Hitchcock kindly gave full information concerning what these other authors stated concerning this genus, but he entirely ignored Heister, the universally recognized author of the genus.

Following a procedure common in those days of few botanical works the authors who cited Heister did not give a definite reference. This fortunately was supplied by Ludwig (Def. Gen. Pl. 417. 1760), who gave the reference "Dactylis Roy. 56. Linn. Ed. V. n. 80. Digitaria Heist. Syst. 12. Fabric. p. 207." Heister's *Systema plantarum generale*, published in 1748, is a rare work, and neither the New York Botanical Garden nor my own library possessed it. However, Dr. B. D. Jackson kindly sent me the necessary extract from the copy of the work which once belonged to Linnaeus in the library of the Linnean Society of London. This reads as follows:

"Plantae monocotyledones apetalae sive gramineae

Ordo I Monoclinae

* * * *

3. Digitatae

Digitaria, H. (= Heister)

Dactylis Royeni

Mannaria (pro gramine mannae)"¹

In other words it was evident that *Digitaria* Heist. was merely a change in name for *Dactylis* Royen. Consulting Royen (*Fl. Leyd. Prodr.* 56-7. 1740) one finds that he devoted over a page to a full treatment of his genus *Dactylis*.² After a long description he gave four species, as follows:

1. *Dactylis spicis numerosis alternis patentibus, calycibus unifloris.*
Gramen dactylon majus, panicula longa, spicis plurimis nudis crassis. Sloan. flor. 34. hist. 1. p. 112. t. 69. f. 1.
2. *Dactylis spicis saepius quaternis alternis patulis, calycibus unifloris.*
Gramen paniceum minus, spica divulsa, insulae barbadensis. Pluk. alm. 174. t. 189. f. 5.

¹ The Gramen Mannae of Matthioli (1583 ed. p. 348; Camerarius Epitome p. 742, 1586) was *Syntherisma sanguinale* (Haller Hist. Stirp. Helv. 2: 244, 1768). Although there is doubt whether this was the correct use of this name (Haller l. c. 244, 220), it is probable that this was the plant to which Heister referred when he used the name Mannaria "pro gramine mannae."

² It may be here remarked that, while Linnaeus took up Royen's genus *Dactylis*, yet he radically changed his generic description, and gave entirely different species than those given by Royen. In other words *Dactylis* L. is really an entirely different thing than *Dactylis* Royen (Linnaeus Gen. Pl. (Ed. 5) 80. 1754; Sp. Pl. 71. 1753).

3. *Dactylis spicis binis terminatricibus linearibus, calycibus unifloris.*
4. *Dactylis spicis numerosis alternis culmo appressis, longitudine internodiorum, calycibus bifloris.*

Gramen palustre, locustis erucaeformibus. Bar. rar. 105. t. 2.

No. 1 is *Paspalum virgatum* L. (Hitchcock RHODORA 29: 114; Linnaeus Sp. Pl. Ed. 2, 81. 1762). This Sloane species was at first erroneously referred by Linnaeus to his *Panicum dissectum* (Sp. Pl. 57. 1753).

No. 2 is referred to *Panicum colonum* L. (Syst. Ed. 10, 870. 1759) by Linnaeus (Sp. Pl. Ed. 2, 84. 1762). This is now known as *Echinochloa colona* (L.) Link.

No. 3 I have not identified.

No. 4 is cited under *Phalaris erucaeformis* L. (Sp. Pl. 55. 1753) by Linnaeus. This is now known as *Beckmannia erucaeformis* (L.) Host.

It will be seen from the above that Fabricius, the first author after Linnaeus to take up the name used it with absolute correctness, (except possibly the reference to Ray) when he wrote "*Digitaria* Heist. *Dactylis* Rai. Gramen dactylon majus panicula longa, spicis pluribus nudis crassis. Sloane." He took the first species given by Royen and specifically cited it, and he specifically cited Heister the author of the genus, who in turn had specifically cited Royen. The remaining species of Royen he did not cite, but it is to be noted that none of them belong to the genus to which Prof. Hitchcock wishes to apply the name *Digitaria*.

Following Fabricius, the name *Digitaria* as used by Adanson (Fam. Pl. 2: 38, 550. 1763) represents the genus of Heister and Fabricius plus three references, all of which represent *Tripsacum dactyloides* L. (Sp. Pl. 972. 1753).

Haller's use of the name (Hist. Stirp. Helv. 2: 244. 1768) represents the genus of Heister and Fabricius as added to by Adanson, plus *Syntherisma sanguinale* (L.) Dulac and *Capriola Dactylon* (L.) Kuntze. And Scopoli's use of the name (Fl. Carn. Ed. 2, 1: 52. 1772) represents the genus of Heister and Fabricius, as added to by Adanson and Haller.

Prof. Hitchcock says "Since Adanson does not propose a new genus but credits the name to Heister his use of *Digitaria* should be regarded as a misapplication, not the publication of a new genus." This is

quite correct, but Scopoli did exactly the same thing, and yet our Washington agrostologist insists that Scopoli's publication must be treated as a publication. I must confess that I cannot follow such logic.

Under all codes of nomenclature the name *Digitaria* is a synonym of *Paspalum* L. and it is typified by *Paspalum virgatum* L.

MAPLEWOOD, NEW JERSEY.

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