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5th Floor, Hunt Library
Carnegie Mellon University
4909 Frew Street
Pittsburgh, PA 15213-3890
Telephone: 412-268-2434
Email: huntinst@andrew.cmu.edu
Web site: www.huntbotanical.org

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About the Institute
The Hunt Institute for Botanical Documentation, a research division of Carnegie Mellon University, specializes in the history of botany and all aspects of plant science and serves the international scientific community through research and documentation. To this end, the Institute acquires and maintains authoritative collections of books, plant images, manuscripts, portraits and data files, and provides publications and other modes of information service. The Institute meets the reference needs of botanists, biologists, historians, conservationists, librarians, bibliographers and the public at large, especially those concerned with any aspect of the North American flora.

Hunt Institute was dedicated in 1961 as the Rachel McMasters Miller Hunt Botanical Library, an international center for bibliographical research and service in the interests of botany and horticulture, as well as a center for the study of all aspects of the history of the plant sciences. By 1971 the Library's activities had so diversified that the name was changed to Hunt Institute for Botanical Documentation. Growth in collections and research projects led to the establishment of four programmatic departments: Archives, Art, Bibliography and the Library.

SMITHSONIAN INSTITUTION

UNITED STATES NATIONAL MUSEUM

WASHINGTON, D. C.

Jan. 8, 1943

Dear Mr. Brown,

Thank you very much for the two copies of the description of your Panicum Bennettense. I am very glad to have them, one for the Hitchcock Library and the other for Mr. Swallen, unless you have also sent him a copy, in which case I shall be glad to hold it for some future student.

I am sending you such of my reprints as I still have and those of Mr. Swallen of which I have extra copies. Thank you also for your interesting note on Sagittaria Kurziana.

Your study of the cytology of Panicum should produce some interesting results. You say all species of Sect. Dichanthelium studied except P. clandestinum and P. Boscii v. molle are diploid, these two being "diploid", a mistake of your typewriter--mine frequently makes like errors. In this connection I recall that of the hundreds of vernal panicles of Sect. Dichanthelium that I examined years ago I never found developed grains except twice in P. clandestinum. I trust you will be able to work on the problem of the sterile (tho' perfect) spikelets of the primary panicle. Our violets, so far as I know, all behave the same way. In Darwin's "Cross Pollination" he tells of an Ipomoea that as I recall insisted on self pollination, producing very vigorous plants exceeding all his cross pollinated ones. Perhaps the problem of sterility is connected with the "preference" for close fertilization in both violets and Panicum. A large number of grasses are known now to be self pollinated. Mention is made of some in the Manual, but there are many more in South America and elsewhere. I hope with all my heart that this world madness will end this year and permit us to begin to rebuild the world that is being devastated--and that you and others can return to your research.

Yours sincerely,

Agnes Chase

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

Nov. 18, 1949

Professor Walter V. Brown,
University of Texas,
Austin, Texas.

Dear Professor Brown,

If you have any reprints of your interesting paper on your cytological study of the cleistogamous spikelets of Stipa leucotricha I should very much like to receive one. Enclosed is a reprint of the first note I published on axillary cleistogenes, the first of these hidden basal ones found, so far as I know. Hackel published on cleistogamy in Sieglingia, referring to those in the panicle and just below. Many more grasses have been found since in which the spikelets are self-fertilized, including those of the axillary racemes of Paspalum and a good many of South America. C. E. Hubbard has published on some of Australia. But I have not before seen a study of the cytology and have wished I had time to do that kind of work. Only recently examining the anthers of Uniola I found the one anther of U. latifolia to be very minute. The grass seeds abundantly--I transplanted it some ten years ago to my yard and it has spread amazingly, little plants coming up all over. I have gathered seed for Kew and other botanical gardens, for it is a beautiful grass. I think it must be cleistogamous.

I know Dr. Agnes Arber, 50 Huntingdon Road, Cambridge, England, would be glad to receive a reprint of your paper. I suppose her books and papers are in the University library.

You may be interested to know that the revision of Hitchcock's Manual is going through the press. I have just finished reading the 330 galley proofs. The first 300 proofs of the illustrations have come. The title page is dated 1950. It seems to be going ahead reasonably speedy so I am hoping it will appear early in the new year.

Sincerely yours,

Agnes Chase

Research Associate

November 25, 1949

Dr. Agnes Chase
Smithsonian Institution
U. S. National Museum
Washington 25, D. C.

Dear Miss Chase:

Thank you for your interesting letter about cleistogamy in certain grasses. I am sure that a great many grasses are cleistogamous, such as Triodia pilosa, Chloris andropogonoides, Vaseyochloa multinervasa, many Sporobolus spp. etc. I feel certain that the presence of minute anthers, such as you found in Uniola latifolia, is a good indication of either obligate or facultative cleistogamy. I hope to make more observations on Texas grasses concerning this phase of reproduction.

I am presently engaged in a study of Hilaria. I find that the three species H. belangeri, H. mutica and H. Jamesii are very sterile. The fertility of these is 25%, 10-15% and 10% respectively. This is unusual in such good wild species, it is more like conditions found in hybrids. I doubt, however, if any of these are of recent hybrid origin, they appear like perfectly good species.

Thanks again for your very interesting letter. I will send a reprint to you when I get them.

Sincerely,

Walter V. Brown

WVB/ma

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

Feb. 1, 1950

Dear Dr. Brown,

If you have them to spare will you kindly send reprints of your close paper on the process of fertilisation in Stipa leucotricha to Mr. C. E. Hubbard The Herbarium, Royal Botanic Gardens, Kew, Surrey, England, and to Dr. Agnes Arber, 50 Huntingdon Road, Cambridge, England? Both are on our mailing list. You have probably seen The Graminease a Study of Cereal, Bamboo and Grass, 1934, by Dr. Arber, and her papers on morphology of grasses. I save duplicate grass papers for Mr. Hubbard. He has access to everything at Kew but he wrote me some years ago that he likes to have papers at home to use . He is interested in cleistogamy, in Australia fertile found a genus in Panicease with two kinds of spikelets which he named Cleistochloa, He would appreciate a copy of your paper in Madrono.

Sincerely,
Agnes Chase

February 8, 1950

Dr. Agnes Chase,
Smithsonian Institution,
U.S. National Museum,
Washington 25, D. C.

Dear Dr. Chase:

Thank you for your last note. I have sent reprints to both Drs. Arber and Hubbard, and they are on my reprint list. I have a copy of Dr. Arber's book, and am acquainted with her papers. She has contributed a lot to our present knowledge of grasses. Compared with other groups of plants we really know a lot about the Gramineae. I wonder if we are going to do anything with all this knowledge?

Sincerely,

Walter V. Brown,
Assistant Professor

WVB/jl

Nat. Herb. April 25. 1950

Dear Dr Brown,

Thank you for the reprint of your paper on Cytological Study of Texas Gram. received some time ago and read with interest

Sincerely
Agnes Chase

THE BOTANICAL LABORATORIES THE PLANT RESEARCH INSTITUTE

MEMORANDUM

Miss Agnes Chase
Smithsonian Institute
National Herbarium
Washington, DC.

Dear Miss Chase:

I would greatly appreciate it if you could tell me approximately when the new Manual of Grasses will be available.

I am continuing with my chromosome counts in the grasses and Dr Tharp is preparing a distributional study of the more abundant grasses of Texas.

Thank you in advance

Walter V. Brown

Mailed
7-27-50
F. P.

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

July 31, 1950

Dear Dr. Brown,

Your letter of the 27th came this morning. I wish I could tell ~~yo~~ you when the Manual will be out. The index, made from page proofs, went in over two weeks ago. I am hoping for the proofs any day. The typesetting went ahead so rapidly last year that I unwisely answered queries by saying I hoped it would be out early in 1950. But the engraving was held up over two months, then some drawings were reduced the wrong size (though every drawing was plainly marked the amount of reduction). Some 50 had to done over and again there was long delay. I am afraid to make any more predictions. I hoped it would be out by September, but that is now impossible. I am hoping it will not be held up in the bindery as was the first edition. Your name is on the list of those to be notified when the announcement is sent out. (The original engravings for Manual I were taken for war metal during the war. I did not know of it till last year. I had all the drawings in order, so there was no dealy there. There are some 50 additional cuts. The maps are placed with the illustrations, saving space and making them more readily consulted.)

Sincerely yours,

Agnes Chase

Research Associate

January 24, 1955

Miss Agnes Chase
Smithsonian Institution
National Herbarium
Washington, D. C.

Dear Miss Chase:

I have corresponded with you in the past in regard to cleistogamy. Recently I came across an interesting condition in the grass Limnodea arkansana; I found that the caryopsis has liquid endosperm. I checked grains collected in 1939 (15 years ago) and they were liquid. Grains about 40-50 years in an herbarium are cheesy in consistency. To the best of my knowledge this interesting condition has not been reported in this species nor in any other grass. However, I, like everyone else, have limited knowledge. I would like to know if you know of such a condition in any grass. I have checked Nuttal's original description in which he made no reference to it. We don't have too many of the old taxonomic treatments and I wonder if you could check a few of them such as Trin. or Bentham? I would greatly appreciate hearing from you in this regard.

Sincerely,

Walter V. Brown

WVB:fd

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

January 28, 1955

Professor Walter V. Brown
The Botanical Laboratories
The University of Texas
Austin 12, Texas

Dear Professor Brown:

Your letter of the 24th came this morning. I stopped my work on the grass catalogue and examined caryopses of Limnodea arkansana. The first (1943) is filled with very thin jelly, the others are as thin or thinner. I have looked up the original descriptions in all the references to Limnodea in Manual of Grasses ed. 2. 892, 893. 1951, and in Bentham & Hooker.

L. H. Dewey, U. S. Nat. Herb. Contr. 2: 518. 1894. No mention of caryopsis.

Nuttall, Amer. Phil. Soc. Trans. (N. S.) 5: 142. 1837. No mention.

Torrey ex Trin. Acad. St. Petersb. Mém. VI. Sci. Nat. 4[1]/: 274. 1841. "Fructus compressiusculus, laevis."

Trin. Acad. St. Petersb. Mém. VI. Sci. Nat. 4[1]/: 274. 1841. No mention. Generic description of Sclerachne Torr. l.c.: "Fructus lineari-oblongus, laevis, compressiusculus."

Steudel, Syn. Pl. Glum 1: 130. 1854. No mention.

Steudel, Syn. Pl. Glum 1: 180. 1854. No mention.

Benth. ex Vasey, U. S. Dept. Agr. Spec. Rept. 63: 16. 1883. (Thurberia Benth ex Vasey). No mention of caryopsis.

Benth. ex Vasey, U. S. Dept. Agr. Spec. Rept. 63: 16. 1883. [Thurberia pilosa Vasey]. No mention.

Scribn. U. S. Dept. Agr. Div. Agrost. Bull. 7: (ed. 3): 139. 1900. No mention.

Thurberia, Bentham, Journ. Linn. Soc. Bot. 19: 58. 1881. Not Thurberia A. Gray 1854. No mention.

Benth. & Hook. f. Gen. Pl. 3: 118. 1883.
"Caryopsis anguste oblonga."

Hitchcock, Gen. Grasses, U. S. Dept. Agr. Bull. 772: 134-135. 1920.
No mention.

same ed 2: 136. 1936. No mention.

Limnodea is not in the Gramineae, a study of cereal, bamboo and grass, by Agnes Arber 1934.

Small, Man. Southeastern Fl. 104. 1933. No mention.

Hitchcock, Man. Grasses U. S. 1935, 1951. No mention.

[Sclerachne Torr. ex Trin. 1841 is invalidated by Sclerachne R. Br. & Benn. 1838].

You have made a very interesting observation, proving what Professor Hitchcock used to say, that there are many facts about grasses still unknown. When I published on cleistogenes in basal sheaths of Triplasis in 1911, and on Danthonia and others later it was "new," but now it is known to be common in grasses and two genera, Cleistogenes Keng and Cleistochloa C. E. Hubb., have been based largely on this character.

I have found Agrostis species with oily endosperm, and Hackelochloa caryopses leave a grease spot when cut across, but never before have I seen liquid endosperm.

I hope you will publish this and order reprints enough to send to the large number of workers in grasses there are today. I should like to send you names from our mailing list. Limnodea is not widespread or important, but your paper will help open our eyes wider.

Sincerely yours,

Agnes Chase

Agnes Chase
Research Associate
Department of Botany

January 31, 1955

Miss Agnes Chase
Research Associate
Department of Botany
Smithsonian Institution
U. S. National Museum
Washington 25, D. C.

Dear Miss Chase:

I greatly appreciate your checking the references concerning the caryopses of Limnodea. It gives me a great deal more confidence in publishing the information as new.

We are currently working on sub-family differences (Pooideae and Panicoideae) of a physiological nature based on the original experiment by Mitchell and Marth 1947, Science 106: 15-16. These do correlate very nicely with leaf bundle sheath anatomy. They indicate that such genera as Vaseyochloa, Distichlis, Tridens, Uniola, Arundo, etc., etc. belong in the Panicoideae (or Chloridoideae of Prat) rather than Festuceae or Pooideae. Also Muhlenbergia, Sporobolus, Aristida, Stipa, etc. also belong in Panicoideae.

Another student is working out Setaria macrostachya. He has 4 entities in it now. 1; a delicate plant from South Texas 2n = 36 and sexual. 2; 54-chromosome plants West Texas to Calif. apomict. 3; 74-chromosome apomicts from South Texas, and 4; 68-chromosome plants from South Texas also apomictic. No. 1 is without doubt a distinct species according to any one concept. It grows along with the 68- and 72-chromosome plants.

Bouteloua pectinata has 2n = 20 chromosomes, B. hirsuta 2n = 24 or more. Ecologically, too, these two taxa are distinct.

Hilaria belangeri has 2n = 36 only around Ozona, Crockett County, Texas. Most plants are 2n = 72 but two collections have 2n = 90 and some 2n = (between 72 and 90). Regardless of chromosome numbers, all of these appear to be the same species. H. swalleni is distinct and has 90-120 chromosomes.

Bouteloua uniflora 2n = 20. B. curtipendula 2n = 40 (sexual) and mostly rhizomatous and late-flowering, 2n = 60-100 or more (apomictic) bunch grasses. Some of these latter may resemble uniflora slightly.

The above are some of the more interesting things that we have found out recently.

Sincerely,

Walter V. Brown

WVB:fc

November 3, 1955

Miss Agnes Chase
Research Associate
Department of Botany
Smithsonian Institution
U. S. National Museum
Washington, D. C.

Dear Miss Chase:

I have a graduate student working on the perennial Setarias (Setaria macrostachya and relatives) of this region. He has done cytological work on chromosome numbers, apomixis, and reproduction. He is also working over the taxonomy. This is difficult since it is evidently on agamic complex but he has, apparently, found one diploid.

The following is his request, Mr. William Emery: "I would appreciate seeing any notes that Mr. Hitchcock may have made on the genus Setaria, but I would particularly like to see any relative to the perennial group which he has called S. macrostachya.

"On evidence from cytology, morphology, and from geographical distribution I believe good taxa exist in this group. However, it is impossible for me, from the original descriptions alone, to determine which entity was taken as the type.

"Some years ago I understand your department sent various workers to European Herbaria to examine 'type specimens.' Might one of them have made notes or perhaps photographed the type specimen of S. macrostachya H.B.K.?

"Any information concerning this group which you may know of will be greatly appreciated and I am sure will contribute to make it a more accurate treatment."

Sincerely yours,

Walter V. Brown

WVB:fd

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

July 3, 1958

Dr. Walter V. Brown
Botanical Laboratories
University of Texas
Austin 12, Texas

Dear Dr. Brown:

Having occasion to refer to your paper on Leaf Anatomy in Grass Systematics in Bot. Gaz. 119. no. 3. March 1958, I find we do not have a reprint. I thought you were on our mailing list, but I do not find a card for you.

I am sending relatively recent publications. I have been so occupied in editing our bibliographic index to grass (scientific) names and combing literature to make it complete that I have published very little for years. We shall be glad to receive reprints of your papers. Of course the 'Leaf Anatomy' is in the Smithsonian Library, but we keep a special agrostological library, and if you have a spare copy we shall be glad to have it.

We have Panicum bennettense 1942; Cytological Study in Gramineae 1948; Cytological study of Cleistogamous Stipa leucotricha, 1949; Some Texas Gramineae, 1950; Chromosome numbers in some Texas Grasses, 1951; Grass with liquid endosperm, 1955; Brown & Coe, Study of Sterility in Hilaria belangeri 1951.

Sincerely yours,

Agnes Chase

Agnes Chase
Research Associate
Division of Grasses

~25 sent
7 July 58

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON 25, D. C.

July 16, 1958

Dr. Walter V. Brown
Botanical Laboratories
University of Texas
Austin 12, Texas

Dear Dr. Brown:

Thank you very much for 12 reprints of your papers. These had been indexed from the journals as they appeared, but we try to have all papers on grasses (taxonomy at least) in the Hitchcock library.

I have placed your name on our mailing list - it was an oversight that it had not been added some years ago.

Thanking you again.

Yours sincerely,

Agnes Chase

Agnes Chase
Research Associate
Division of Grasses

March 9, 1959

Mrs. Agnes Chase
Grass Herbarium
Smithsonian Institution
Washington, D. C.

Dear Mrs. Chase:

I wish to thank you for the copy of your revision of "The First Book of Grasses," which you so graciously sent me. It was one book on the subject I was lacking. Last fall when I began teaching my course in agrostology, I found that the book was out of print and unavailable for my students. Now they can buy copies.

I was also glad to have the foreword about the author. You are certainly to be congratulated upon your mental and physical activity. We can class you, in these respects, with Dr. L. H. Bailey. I wish you many more years of happiness with the grasses.

Sincerely,

Walter V. Brown

WVB:jh