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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.

in



AIR MAIL-POSTAL CARD

Mr. Arthur M. Scott
2824 Dante Street
New Orleans 18, Louisiana

18

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-- If you have any copies available for distribution, I
-- should greatly appreciate a reprint of your paper:

-- Indonesian Desmids

I have some desmid material from New Zealand.
If you are interested I would be glad to
send these along.

Thank you for this courtesy.

Sincerely yours,

Arctic Health Research Center
Box 960, Anchorage, Alaska

Douglas Hilliard
Douglas Hilliard

Box 960
Anchorage, Alaska
May 2, 1962

Dear Mr. Scott-

I have this date received both your letter and the two fine reprints. Thank you for these. As for the New Zealand desmids, I have ample material, so will send some along for your edification.

The Irene-Marie manuscript on the desmids of central Alaska, about which I spoke to you at an earlier date, has been accepted for publication by *Hydrobiologia*. I will most certainly send you a reprint when they are made available.

Sincerely yours,

Douglas Halliard
Douglas Halliard

July 11 1962

Dr. Douglas Hilliard,
Arctic Health Research Center,
Box 960, Anchorage, Alaska.

Dear Dr. Hilliard,

The cardboard box containing the New Zealand algal samples arrived here in a badly crushed condition, and I was afraid that the contents also would be damaged. But I was glad to find that all 13 vials were intact, thanks to the cotton packing.

I have made a quick examination of one slide from each of the vials, to get a general idea of the desmid content, and was disappointed to find very few desmids, in fact I did not find any at all in two of the samples. On the other hand there are plenty of diatoms, and this condition - few desmids and many diatoms - is usually an indicator of hard water unsuitable for desmids. Perhaps the region where the collections were made has soil derived from basic rocks like limestone. Of course further examination may reveal more desmid species.

If you have looked at this material you probably noticed a very large Cosm. in #10 and a couple of other samples. This is *Cosm. pseudopachydermum* described by Nordstedt in his 1888 paper *F.W. Algae from New Zealand and Australia*, and very seldom reported since then. In sample #2 there is a *Xanthidium* resembling *X. cristatum* v. *uncinatum*, but differing from the European and American forms of this variety, so possibly it is new. Also in the same vial there is a *Staurostrum* that I do not recognize. It would require a long search to ascertain if these are really new. The other desmids do not seem remarkable; some of them are cosmopolitan species, and I think the others can be found in the existing literature on desmids from New Zealand and Australia. On the whole, therefore, I do not think that this lot of material is worth a paper by itself, though it would fit in nicely with other collections if they become available.

This is the first algal material that I have seen from New Zealand, though I have examined a lot from Australia, and I thank you heartily for sending it to me.

Sincerely yours,

Sept. 26 1962

Dr. Douglas Hilliard,
Box 960, Anchorage, Alaska.

Dear Dr. Hilliard,

The desmid-flora of Japan is quite well known, through the studies of many phycologists in that country. The best of them is Dr. Minoru Hirano, Biological Laboratory of the Yoshida College, Kyoto University, Kyoto, Japan. He has published a Flora Desmidiarum Japonicarum in seven installments, in Contributions from the Biological Laboratory of Kyoto University, from 1955 to 1959, which purports to include all desmids known from Japan up to that date, including quite a number from Hokkaido. Also I exchange reprints with several other Japanese, but some of their papers are written in their own language, which I cannot read at all, and one man even writes in Esperanto!

About 12 years ago Minoru Hirano sent me some 60 collections of FW algae, but I did not publish on them because he was working on them himself. I was surprised and rather disappointed to find that a large majority of the desmids were cosmopolitan species that could be easily identified from the works of European authors. Of course there are some that are peculiar to Japan, and strange to say he has even found a few that were first discovered in southeastern Asia and were considered to be strictly tropical.

In North and South America, so far as I know, there are only three specialists on desmids; Dr. G. W. Prescott, Dept. of Botany, Michigan State Univ., East Lansing, Mich., Dr. Hannah Crossdale whom I believe you know, and myself, and I must be counted out because of the poor state of health of myself and my wife, so that I have discontinued my study of desmids.

In Europe there are two men who possibly would be interested in your Hokkaido samples; also those from New Zealand:

Mons. P. Bourrelly,
Laboratoire de Cryptogamie,
12 rue de Buffon,
Paris V, France.

Dr. Kuno Thomasson,
Växtbiologiska Inst.
Uppsala Universitet,
Uppsala, Sweden.

The Food & Agriculture Organization of the United Nations, (FAO), in Rome, Italy, has published Technical Paper FB/T7 and Supplement No. 1, giving a long list of persons all over the world engaged in the study of various kinds of algae, with their respective specialties. I think you would find this of interest.

With my best wishes, Yours sincerely,

December 15 1960

Dr. Taketoshi Hinode,
Naruto City, Japan.

Dear Dr. Hinode,

I am sorry that I could not acknowledge sooner the receipt of your letter of Oct. 29, and to thank you for the nice postage stamps, the microfilm copies of Dr. Okada's works, and for your reprint of the paper on Japanese Desmids (3).

It is indeed surprising that you and other Japanese phycologists have collected in your country many of the so-called tropical desmids that are common in southeast Asia, particularly in Indonesia. Yet there is a parallel case in this part of the world. Dr. Wm. Randolph Taylor described many new species and varieties of desmids from Newfoundland where the climate is quite cold, and Fr. Ireneé-Marie has many others from Canada, where^e has found desmids growing abundantly in water that was covered with 25 to 30 cm of ice. I have found many of the same desmids in the sub-tropical climate of the States bordering the northern coast of the Gulf of Mexico and in Florida, on sandy soils where there are no rocks of any kind, and ice is quite a rarity.

One of your desmids, Euastrum horikawae sp. nov., was of special interest to me. A drawing showing the front view of this desmid was published in 1957 by Dr. G. A. Prowse, in a paper entitled "An introduction to the desmids of Malaya", Malayan Nature Journal, Vol. 11, March 1957, but he wrongly named it as a form of E. turgidum Wall. Dr. Prowse is one of the authors of the paper "Sudanese Desmids" by Grönblad, Prowse & Scott. I met him in London in 1955, and in 1959 he visited me in New Orleans, on his way from Malaya to England.

In 1951 I found this same Euastrum in material from Borneo, sent to me by Mr. M. Sachlan, of Bogor, Java. At first I thought it might be assigned as a new variety of E. turgidum, but after seeing several specimens and obtaining the side and vertical views, I recognized that it was a new species. When Prowse sent me his paper in 1957 I wrote to him informing him of my previous discovery and that it is a new species, and I named it Euastrum prowisei in his honour. It is described under this name in a large paper on Indonesian desmids by Scott & Prescott that will be published in Hydrobiologia early next year. By a curious coincidence I received the page-proof of this paper for correction just two or three days after the arrival of your letter and your paper. Your name for the plant has priority, of course, but to change the name in my paper would have required the removal of more than 1½ pages of the text, and placing the species in a different alphabetical position. It was too late to do this, so at the end of the paper I have placed an addendum stating that the name E. prowisei Scott & Presc. is a synonym for E. horikawae Hinode. My Borneo specimens are a little larger than yours: Length 102-103; Width 84-88; Isthmus 33-34; Thickness 51-55 u, but there is no other difference.

Such interferences between names for the same plant published by different authors are unfortunate, of course, but they have been occurring for the last hundred years or more, and there seems to be no way of preventing them.

With my best regards,

Sincerely,

I wish you would do me the favour of sending reprints of all your desmid papers to the following address:

Herrn Ing. Kurt Förster,
(13b) Pfronten-Ried,
Hs. Nr. 199 $\frac{1}{2}$ - Allgäu.
West Germany.

He has nothing to offer you in exchange yet, but recently I helped him with the identification of a large lot of Brazilian desmids, including many new and curious species. His desmid drawings are among the best and most accurate that I have ever seen, and I suppose he will publish them in due course of time.

Dr. Arthur M. Scott,
2824 Dante Street,
New Orleans, La,
U. S. A.

Taketoshi Hinode,
The First Lower Secondary
School of Naruto,
Muya-cho, Naruto City
Tokushima Prefecture
Oct. 29, 1960.

Dear Dr. Scott,

I express my hearty thanks for the kind sending to me the many excellent reprints of your papers. Moreover many thanks for your kind and detailed advice and aid which have given me very instructive help and encouragement on my studies. In our country the flora of desmids seems to be rich in species and shows a rather close relationship to that of South & East Asia, including not a few particular or endemic species. I have much interesting in observation of these microorganisms. I beg your kind help earnestly.

Since I have seen in your letter that you do not possess the Dr. Okada's papers, I have sent the copies of followings by photographed film.

1. Taxonomical studies of genus *Microastaniads*, with special reference to the species of Japan and its surrounding areas.
2. Taxonomical studies on genus *Euastrum*.....etc.
(Both written in Japanese)

I enclosed some postage stamps of East Asia (mostly of Japan) in this letter. I hope that these will be able to answer your purpose.

Yours sincerely,

T. Hinode

The First Lower Secondary School
of Naruto, Muya-cho,
Naruto City, Tokushima Prefec.
Japan.

July 25, 1960.

Dear Mr. Arthur M. Scott:

I beg you will accept my short reprints on Japanese Desmids.
I wish you would give me your kind criticism and advice. In Japan
it is very difficult to get the literatures of Demidiaceae, and
I am much suffering from it.

I entreat your kind guidance and help.

Yours sincerely

Taketoshi Hinode

Sept 13 1960

Dr. Taketoshi Hinode,
First Lower Secondary School of Naruto, Myya-cho,
Naruto City, Tokushima Prefecture,
Japan.

Dear Dr. Hinode,

Many thanks for sending me the reprints of your papers on Japanese desmids. I am very glad to have them, and in return I have sent you several of the papers in which I have collaborated either as junior or senior author.

Since you asked for criticism and advice, I have given some comments on your determinations on the enclosed two sheets. In general your determinations seem to be correct, with the exceptions that I have noted. I cannot say definitely whether your new species and varieties are really new, because my collections of desmid drawings and my small library of literature are not sufficiently complete; nor is there in this city any other library that has much desmid literature. To be sure that a supposed novelty is really new, it is necessary to be able to use a large iconograph or iconotheque, such as the one that Prof. G.W.Prescott has built up over a period of nearly 40 years, and which he thinks contains more than 90% of all desmid illustrations ever published anywhere in the world.

Your illustrations are excellent, the best that I have seen from your country; better than Minoru Hirano's, which seem to have been drawn with drawing instruments such as straight-edge and compass, giving a "mechanical" appearance. My own camera lucida drawings are drawn to a magnification of 1600x for desmids of average size, that is up to about 100 μ . For the smaller ones, say 25 μ or less, I draw them to a magnification of about 2300x. These magnifications are obtained with a 20x compensating eyepiece and 44x or 60x ~~xxxxxxxxxxxxxxxx~~ apochromatic objective, both dry. For the very long Closteria and Pleurotaenia and the large Micrasterias I use various combinations of oculars and objectives, so that the drawing will fill as nearly as possible my standard size sheet of paper, which is 7" x 8 $\frac{1}{2}$ " (18 x 22 cm). My only criticism of your illustrations is that some of them are too small, so that it is difficult for you to show all the minute details properly, and difficult for others to interpret them.

From the bibliography in your Sandankyo Gorge paper it is evident that there are many important reference works that you do not possess, both ancient and modern, and both American and European. I have sent you all of my papers of which I still have reprints, but there are some earlier ones, by Prescott & Scott, or Scott & Prescott, of which my supply is exhausted. You can probably obtain some of these by writing to Dr. G.W.Prescott, Dept. of Botany, Michigan State University, East Lansing, Mich., U.S.A. Give him a list of those that I have sent, and ask him for any others that he has available.

Write a similar letter to Dr. Rolf Grönblad, Centralgatan 86, Karis, Finland, and send me him your own papers.

Following are the names and addresses of other phycologists who would be willing to exchange reprints with you:

Frere Irenée-Marie, Maison principale des FF. I.-C., La Pointe-du-Lac, Que., Canada.
Dr. Hannah Croasdale, Dept. of Zoology, Dartmouth College, Hanover, N.H., U.S.A.

Lektor Einar Teiling, Klostergatan 10, Linköping, Sweden.
Dr. P. Bourrelly, Laboratoire Cryptogamique, 12 rue de Buffon, Paris V, France.
Dr. Jiri Ruzicka, Biological Institute, Hydrobiology, Trebon, C.S.S.R. (Czechoslovakia).
Dr. Karl Behre, Lesmonastr. 31, Lesum bei Bremen, W. Germany. (Czechoslovakia).
Dr. Gerald W. Frowse, Fish Culture Research Station, Batu Berendam, Malacca, Malaya.
Dr. Edwin Messikommer, Seegraben, Kt. Zürich, Switzerland.
Mme. L. Gauthier-Lievre, Universite d'Algers, Algers, Algeria, N. Africa.
Prof. Dr. P. van Oye, St. Lievenslaan 30, Ghent, Belgium.
Dr. J. Heimans, Hugo de Vries Laboratorium, Hortus Botanicus, Amsterdam, Nederland.
Mme. G. G. Kossinskaja, Prof. Popov-str., 2, Apt. 20, Leningrad, U.S.S.R. (U.S.S.R.).

These are the most active of the desmidiologists of the world outside of Japan, and I am sure that some of them, at least, will exchange their papers with you. It would be advisable to include with your sendings a mimeographed request reading: "an exchange of papers on freshwater algae, especially desmids, will be appreciated".

I hope that my comments and this list names will be of help to you. In return perhaps you will be kind enough to send me from time to time some cancelled postage stamps from Japan, China, Korea, and other countries of the Far East. I am not a philatelist myself, but I give these foreign stamps to a small boy, the son of one of my friends, who started collecting postage stamps a year or two ago.

Sincerely yours,

On some Japanese desmids I. 1952.

Triploceras abbreviatum var. simplex (Allorge) Hinode. Tr. abbreviatum was transferred to the new genus Triplastrum by Iyengar & Ramanathan in 1942. J. Ind. Bot. Soc. XXI:3/4, 1942, pp 225-229. Your plant therefore is Triplastrum abbreviatum var. simplex (Allorge) Iyengar & Ramanathan.

Cosmarium globosum var. wollei. In 1954 Einar Teiling wrote a long paper entitled "Actinotaenium, genus Desmidiacearum resuscitatum", Bot. Notiser 1964, 376-426, in which he placed a section of the genus Cosmarium, containing nearly all those species that are circular in vertical view, and only faintly constricted in the middle, such as Cosm. cucurbita, cucurbitum, clevei, globosum, turgidum, etc. At first there was some reluctance to accept this new genus, and I note that Minoru Hirano did not accept it in his Flora Desmidiarum Japonicarum. However, several European desmidiologists are using it, and only a few months ago Prescott and Croasdale and I agreed to use the new genus in the North American Desmid-Flora on which we are working.

The desmid-flora of Akai-yachi, ^{March} 2, 1955. 3, April 1955.

Buastrum octogibbosum. See Scott & Prescott, Arnhem Land, 1958, which I have sent you, p. 32, under E. coralloides var. subintegrum.

Arthrodesmus japonicus. This looks like ~~XXXXXX~~ A. arcuatus Joshua.

Staurastrum arachne v. arachnoides. Your drawings in this paper and also in your Sandakyo Gorge paper, correspond exactly with St. gyrans Johnson 1894, which has been changed to St. arachne var. gyrans (Johns.) Scott & Gronbl. 1957, which paper I have sent you.

Hyalotheca neglecta was transferred to the new genus Groenbladia by Teiling, because it has a lamellar chloroplast instead of a ~~xxx~~ pseudostelloid chloroplast as in Hyalotheca. Teiling's paper is entitled "Evolutionary studies on the shape of the cell and of the chloroplast in desmids", Bot. Notiser 1952, 264-306.

Gymnozyga moniliformis Ehrenb. Although this name has been used for many years and by many people (including Prescott and myself), it is now outlawed. The generic name Bambusina Kütz. is the nomen conservandum, and Gymnozyga is a nomen rejiciendum, according to the 1956 International Code of Botanical Nomenclature. The type of species of ~~Bambusina~~ is B. brebissonii Kütz., and this is the name to be used instead of G. moniliformis.

Desmidian Flora of the Sandakyo Gorge, etc. 1959.

Pl. 6, Figs. 8-10, and 11-14. These do not belong to E. geometricum. Figs 11-14 are identical with Borge's illustration of E. coralloides var. trigibberum Lagerh., in the paper "Ueber tropische und subtropische Sussw. Chlorophyceen", 1899, Pl. 2, Fig. 31. Krieger excluded E. coralloides on the ground that Joshua's illustration was "unsicher", and created the name E. octogibbosum for var. subintegrum. I am convinced that Krieger was mistaken, and have discussed the matter further in a large paper now in press on Indonesian desmids, which will be published next Spring, I hope. In the Indonesian material I found numerous specimens of var. trigibberum, in two different sizes, the smaller from Borneo and Java measuring 36 x 31 u, and the larger from Sumatra 51 x 39 u. I have given complete illustrations of both forms.

Pl. 6, Figs. 20-22. E. pterophorum. This looks like a new species to me.

Pl. 6, Figs. 26-31. In the Indonesian material I found all these differing forms of E. ceylanicum in one collection, with intergrading and dichotomous forms. Therefore I treated them all as belonging to the species, which evidently is quite variable.

Pl. 6, Figs. 35-37. E. turgidum. See the paper by Scott & Presc. ~~Scott~~, "Notes on Indonesian F.W. Algae IV", which I have sent you.

Pl. 7, Fig. 5. Micrasterias zeylanica, not ceylanica. The original spelling by Fritsch must be maintained, according to the Code.

Pl. 8, Fig. 6. M. denticulata var. japonica (Fujisawa) Okada. This was treated as M. rotata var. japonica by Krieger, and this is the way I listed and illustrated it in a paper by Presc. & Scott, 1952. Apparently Okada subsequently transferred the plant to M. denticulata, but I do not have this paper by Okada, and would be grateful if you could get it for me.

Pl. 12, Figs. 10-13. I have seen this plant from Malaya and also from Sierra Leone. Undoubtedly it belongs to Xanthidium, not to Micrasterias or Euastrum. In a paper by Grönblad & Scott, now in preparation, the name will be changed once more, to X. umiforme (W & W) Grönbl. & Scott, comb. nov. West & West's specific name takes precedence over Gutwinski's, because their paper was dated May 1902, and Gutwinski's November 1902.

Pl. 13, Figs. 25-26. St. arachne var. gyrans Scott & Grönbl. The North American form usually has only a single spine on the right-hand side of the base of the processes, but I have seen a few with two spines.

Pl. 13, Figs. 23, 24. This is not what is usually interpreted as St. incisum Wolle, but the matter is complicated by the fact that Wolle gave two illustrations, differing from each other.

Pl. 14, Fig. 13. Groenbladia neglecta (Racib.) Teiling.

Pl. 9, Fig. 12. Cosm. connatum fa. circularis. It is impossible to tell whether this belongs to connatum or pseudoconnatum because you give no information about the chloroplast or pyrenoids. Connatum has the chloroplast divided into two parts and has only two pyrenoids in each semicell. Pseudoconnatum usually has the chloroplast divided into four quadrants with one pyrenoid in each, but there may be 5, 6, or 7 parts with one pyrenoid in each.

March 18 1964

Dr. Phillip J. Selicki,
Dept. of Limnology,
Academy of Natural Sciences,
Philadelphia, Pa.

Dear Phil,

Previously I had thought that the Academy was a public institution, perhaps something like the Smithsonian. From Mr. Rehn's letter, explaining that it is a private institution, it is easy to understand that its funds must be reserved for publishing works by its own staff, or by associated scientists who have worked on its collections. Anyway, I am grateful for your effort.

I subscribed to Nova Hedwigia in advance, and in acknowledging my subscription the publisher invited me to contribute some papers to it. Therefore I have had in mind the possibility of his publishing my Indonesian paper as a supplement, though naturally I would rather see it published in this country.

Also I subscribe to the Revue Algologique, though I did not know that they have another journal for larger papers. When I was in Europe in 1955 I called at Bourliery's office in Paris, but unfortunately it was during the summer vacation so he was at the Reserve's biological station on the English Channel.

Like you, I think the make-up and typography of Nova Hedwigia is far superior to that of the Revue Algologique, so next week I will write to the publisher and ask him to tell me if and when he could publish it.

With best regards to you and your wife, from Edith and myself,

Sincerely,

Copy to Mr. James J. G. Rehn.

March 3 1960

Dr. Phillip J. Halicki,
Academy of Natural Sciences,
Philadelphia, Pa.

Dear Phil,

It was very kind and thoughtful of you to send me the bottle of Hyrax, and I appreciate it greatly.

Of course I knew that this inflammable liquid could not be sent through the U.S. Mails, so I enquired at the Railway Express Agency. They raised no objection to its inflammability, but they wanted a little more than \$14.00 to carry it by air from here to Munich, the nearest large German town to which they had rates, and thought it might cost another \$1.00 or so to get it from Munich to the small town of Ingolstadt. The \$14.00 is their minimum charge, for which you can send anything up to 10 lbs. in weight.

Then I asked what they would charge for surface transportation, rail and steamship, and it turned out they they would take it all the way to Ingolstadt for \$11.85, which again is a minimum charge for anything up to 30 lbs.

In the meantime I had received a belated reply from Braun-Knecht-Heimann Co., the manufacturers, quoting prices on both liquid and solid Hyrax, so I bought 4 ounces of the solid Hyrax for \$3.75, and paid them their minimum charge of \$5.00, and sent it by Uncle Sam's parcel post for exactly 62¢, including insurance. My German friend has been making microscope slides for 30 years, so I am sure he can dissolve the solid resin in xylol, toluol, or benzol without too much trouble.

The moral of all this seems to be this: Don't use the Railway Express for foreign parcels unless you have something fairly weighty.

Just now I am stuck with the Ms. of a large paper on Indonesian desmids on which I have been working for the last 3 years, off and on, and for which I am seeking a publisher. The authors are Scott & Prescott, but the work was all done by me, and Doc's collaboration consisted in assistance with some of the obscure and difficult species, and the use of his iconograph. In fact you saw some of my drawings when I met you in his laboratory a couple of years. The paper was intended for publication in Reinwardtia, whose editor had promised three or four years ago to publish the large paper when it was ready, as he has already done with three short preliminary papers. But last Fall he wrote me that much to his regret he would not be able to handle it, because of a drastic reduction in his budget. Since then I have been trying to find another medium for publication, but without much luck so far. Doc suggested Memoirs Torrey Bot. Club, and the editor of this journal is willing to consider it, but added that their Memoirs fund is sufficient to print only one paper about every two years, so it would be at least 2 and possibly 4 years before it would appear. I cannot afford to wait that long, because my age and declining health make it appear likely that I may not live that long.

I wonder if you would be kind enough to ask the editor of the ANS publications if there is any chance of your Academy publishing it. Here is a brief description. It will run to about 160 printed pages of text, plus 63 full-page plates of illustrations. The large number of plates is due to a special request of the collector that I should illustrate all of the desmids found, even the well-known ones.

It describes and illustrates 536 desmid taxa, of which 29% are new to science. Thus it will be by far the largest and most important work ever published on the desmids of Indonesia, and in fact for the whole of southeast Asia. The only comparable paper for Indonesia is Krieger's "Sunda" paper (1932) with 380 taxa. For other nearby regions there are the papers by Skuja on Burma (1949) with 299 taxa; West & West on Ceylon, (1902) with 278 taxa; and Turner on India (1892) with about 530 taxa. The last paper, by Turner, is out of date and unreliable, because his illustrations are so poor that many of them are unidentifiable, and many of his "species" have been reduced to synonymy with others.

The paper is complete and ready for the printer, except for a small amount of editorial work to indicate the sizes and styles of type for title, headings, etc. As a sample of our work you might show the editor the Arnhem Land paper by Scott & Prescott. If he is willing to consider it I shall gladly send the Ms. for his inspection, together with some blueprints of typical plates.

With my best regards,

Sincerely,

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

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FOUNDED 1812

H. RADCLYFFE ROBERTS
DIRECTOR

KENNETH W. PRESCOTT
MANAGING DIRECTOR

January 21, 1960

Air Mail

Dr. Arthur M. Scott
2824 Dante Street
New Orleans 18, Louisiana

Dear Dr. Scott:

There are currently two suppliers of Hyrax in the United States from which we have bought our supply. One is General Biological Supply House (Turtox) in Chicago, and the other is the Arthur H. Thomas Scientific Supply Company, 3rd and Vine Streets Philadelphia, Pennsylvania. The product is made by the Braun-Knecht-Herman Company in San Francisco, but I, as you, have not had success in buying from them. Perhaps they only sell in large quantities to jobbers. At any rate, in order to cause you no more delay, I am sending you a bottle from our supply which will perhaps, help repay the many kindnesses you have given me.

Thank you for the note on the Frenguelli papers. I have written to Museo de la Plata and shall hope to get copies.

With best regards, I remain

Sincerely yours,

Phil

Phillip J. Halicki
Assistant Curator of Limnology

PJH/rmb

January 18 1960

Dr. Philip J. Halicki,
Academy of Natural Sciences,
Philadelphia, Pa.

Dear Phil,

In the current issue of the Revue Algologique IV(4) November 1959 there is a biographical article on Dr. J. Frenguelli, giving a list of his papers. The last three papers in the list, which are still in press, may be of interest to you for your Antarctic bibliography. The title of the second one is not clear to me. From my smattering of Spanish it seems to mean "The diatoms of Adelle Land in "her" station of Villefranche-sur-Mer, France". I don't know why the feminine possessive pronoun "su" was used instead of the definite article "la", nor can I see what connection there is between Adelle Land and Villefranche-sur-Mer, which is, I believe, on the English Channel. Perhaps Dr. Ruth Patrick can explain it.

I wish you would ask Dr. Patrick where Hyrax can be bought in small quantities. One of my correspondents in Germany asked me about this, and gave the address of L. A. Penn, 1043 Windsor St., Oakland, Cal., but my letter there was returned stamped "Unknown at this address", and with a pencilled note "Not here now, moved elsewhere". Then I found in Shillber's book on Photomicrography (1941) the statement that Hyrax could be obtained from Salk-Hyern, Inc., of New York City. They have changed their name to Palo Laboratory Supplies, and evidently do not handle Hyrax now, since they forwarded my letter to R. P. Cargille Laboratories, 81 Reade St., New York City. Cargille replied that they handle only Index of Refraction liquids, some of which are suitable for temporary mounts, but they do not harden into solids. They said the only information they had about Hyrax is that it is marketed by Braun Knecht Heimann Co., 1400 16th St., San Francisco 19, Cal., but my letter to them is unanswered, and has not yet been returned by the Post Office, though there has been time enough for the return.

Perhaps Hyrax is now longer available, and if so Dr. Patrick may know of an acceptable substitute of similar refractive index (1.70 to 1.80). I know there is an English product named Sirax (index 1.80), but in Corrington's book "Working with the Microscope" it is said that Sirax is not quite so good as Hyrax, because it has a tendency to form objectionable bubbles when it is being heated on the slide to evaporate the solvent and harden the resin. Sirax is sold by Flatters & Garnet, of Manchester, England.

Some of Cargille's Index of Refraction liquids might interest Dr. Patrick if she does not already know of them. They range with refractive indices up to as high as 2.11, and thus would be useful in resolving the extremely fine markings on certain diatoms.

With my best regards,

Sincerely,

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

RESEARCH • NATURAL HISTORY MUSEUM • EDUCATION

H. RADCLYFFE ROBERTS
DIRECTOR

FOUNDED 1812

KENNETH W. PRESCOTT
MANAGING DIRECTOR

March 11, 1960

Air Mail

Dr. A. M. Scott
2824 Dante Street
New Orleans 18, Louisiana

Dear Dr. Scott:

I just received a carbon copy of the letter that Mr. Rehn wrote you about the possible publication of your paper on Indonesian Desmids. I regret, as he, that the Academy is not financially able to do the publishing.

I wonder if you have considered the new Hedwigia? Indications were when publication began, that large taxonomic papers unpublishable elsewhere due to size, would be given priority. I have included my copy of Heft 2, Band 1 so that you can read the directions to authors. It at least, might be a good idea to write to Drs. Mattick and Gerloff. These are the people that have put Keiger's Cosmarium monograph together and will publish it as a supplement. Perhaps they will publish your large paper also as a supplement as described in their description of the journal. When you have finished, I would like to have the copy of Hedwigia returned.

I would ^{de Cryptogamia} further suggest you write to Dr. P. Bourrelly, Laboratoire, Museum National d'Histoire Naturelle, 12 Rue de Buffon, Paris Ve, France. Dr. Bourrelly is editor of Revue Algologique, as you know, which also publishes a supplement series for large papers. At the Montreal meetings, I know that he was looking for papers large enough for that series. If it comes to the point of a choice between the two journals, I personally would much prefer Nova Hedwigia. I think they would do a better job with your plates.

I hope that all goes well and that your good health continues; there are so damn few good taxonomists like you.

With my best

Sincerely yours,

Phil
Phillip J. Halicki
Assistant Curator of Limnology

PJH/rmb
Encl.

This space is also for correspondence.

ここにも通信文を記載することができます

H. HIROSE
Dept. of Bot.,
Facult. of Sci.,
Kobe Univ.,
Kobe, Japan.

Prof. Dr. Arther M. SCOTT
2824 Dante St.,
New Orleans 18,
Luisiana,

U.S.A.

PAR AVION

航空

この郵便物には何物も封入又は添附できません

Nothing may be contained in or attached to this letter.

折込線

折込線

ここにも通信文を記載することができます

This space is also for correspondence.

Digitized by Hunt Institute for Botanical Documentation

Prof. Dr. Arther M. SCOTT, Sir,

April 11 1960

Kobe, Japan

I desire to acknowledge with sincere thanks the recent receipt of separate copies of your publications:

1. (1952) Some south Australian Desmids.
2. (1952) The algal flora of south eastern U.S.V. Addition to our knowledge of the Desmid genus *Micrasterias* 2.
3. (1957) Einige Desmidiaceen aus Peru.
4. (1957) New interesting Desmids from the southeastern U.S.
5. (1958) Notes on Indonesian freshwater algae III. new varieties of some little-known *Staurostrum*.^a
6. (1958) Some freshwater algae from Arnhem Land northern territory of Australia.
7. (1958) Sudanese Desmids.
8. One separate whose cover and the 1st and 2nd are lost. The 17th page contains *Hyalotheca*, *Sphaerocapsa* and *Desmidium* and on the 8th page are written *Staurastrum* and a part of *Cosmarium*. The size is 19cm Broad and 23cm High.

I have read through your valuable articles and publications with keen interest. As I have been making sketches of phytoplanktons based on my collection, your publications will certainly give me much more suggestions to my studies, I believe. Though I have been much embarrassed recently in identifying some genus, I could be certified that the very sample should be belonged to the genus *Streptonema*, *trilobatum* and moreover to the species, *Streptonema trilobatum* Wall. by means of citing your "Some freshwater algae from Arnhem Land of Australia (1958) p. 70, and pl. 21, fig. 1.

Thanking again,

Yours faithfully

Hiroyuki Hirose

HIROYUKI HIROSE
Department of Botany,
Faculty of Science,
Kobe University,
Kobe, Japan.

Post Script:

If you would have a chance to write me, please let me know the title and the name of magazine of the above No. 8 publication.

April 30 1960

Dr. Hiroyuki Hirose,
Dept. of Botany, Faculty of Science,
Kobe University,
Kobe, Japan.

Dear Dr. Hirose,

By this time you have probably noticed that Item No. 8 on your list of the reprints that I sent you is the same as No. 1, except that the covers and some of the pages are missing. When I ordered reprints of No. 1 I asked the printer to make some extra copies of the plates only, without the text, so that I could send them to desmidiologists who main an icnotheque of desmid illustrations. Apparently the printer found it easier to run off part of the text with the plates, for No. 8 is what I received.

Streptonema is a monotypic genus, the only species being trilobatum Wall. This desmid has previously been reported only from India and Australia, but I have also found it in several collections from Java that will be described in a paper by Scott & Prescott that is now in manuscript form, awaiting a publisher. Also a friend of mine who lives in Malacca has found both the 3-radiate form and a new 4-radiate form from somewhere in Malaya.

Your find of this plant in Japan is an interesting extension of its range of distribution, and is another example of the so-called "tropical" desmids occurring in countries with a temperate climate; several others have been reported from Japan by Minoru Hirano and Yoshikazu Okada.

If you ever find specimens of Str. trilobatum showing the early stages of vegetative reproduction, or the method of formation of the sygospores, I should like very much to see drawings of them, or preferably some of the material itself for study.

With my best wishes,

Yours sincerely,

THE ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA

RESEARCH • NATURAL HISTORY MUSEUM • EDUCATION

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H. RADCLYFFE ROBERTS
DIRECTOR

KENNETH W. PRESCOTT
MANAGING DIRECTOR

June 16, 1959

Air Mail

Dr. Arthur M. Scott
2824 Dante Street
New Orleans 18, Louisiana.

Dear Dr. Scott:

Thanks so much for the, as usual, beautiful job on Sudanese Desmids. A chap at the Herbarium in Pretoria, South Africa, once promised to send some desmids to me from that area. He wrote recently and said that a friend working for one of the water resource boards was collecting desmids and that they would be sent on to me here. I am wondering if you would care to add this project to your myriad of geographical interests. If you say the word when the material arrives, I will send it on to you and I will be more than glad to contribute whatever you like to the study. Since I am now here at the Academy and near excellent libraries, perhaps it would be good if I were to do the literature search and gather as much data on the geology-ecology of the area as possible.

Congratulations on your recent article with Grönblad appearing in April number of Taxon. I think that your answers were excellent and in particular the paragraph regarding "an independent discipline and a hobby of some scientists to study the code". This is to be the very last degree my opinion of Paul Silva and the California school that he represents. In my opinion, as also mentioned in Kómarek's paper, algology is indeed 100 years behind phanerogamic taxonomy. With such a state of our science it would be much to all of our benefits if such efforts as those of Silva were channeled into good sound floristic or monographic studies.

Although I was happy to see your article appear, I was rather disappointed that GWP couldn't find time to compose such an article himself. The last time I talked to him, he wasn't even sure that he would be in Montreal at the nomenclatural sessions when this proposal comes up for

Dr. Arthur M. Scott

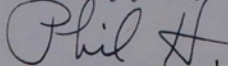
- 2 -

June 16, 1959

discussion. It is indeed regretful that the man writing the Desmids of North America may not be there to represent and argue for the American desmidiologists. I shall look forward to renewing our acquaintance in Montreal.

With fondest regards, I am

Sincerely yours,



Phillip J. Halicki
Assistant Curator of Limnology

PJH/rmb

Digitized by Hunt Institute for Botanical Documentation

June 19 1959

Dr. Phillip J. Halicki,
Assistant Curator of Limnology,
Academy of Natural Sciences,
Philadelphia 3, Pa.

Dear Phil,

It seems to me that 75% or more of the articles on limnology that I read, or books on the subject that I see reviewed, are written by zoologists who have little or no knowledge of algae, so I am glad to see that you, as a botanist, have obtained the important position of Assistant Curator of Limnology. Is the Managing Director, Dr. Kenneth W. Prescott, any relation to our friend "Doc." ?

I should like very much to get some more algal material from Africa, for the desmids of that continent are probably less known than those of any other large land-mass, and as you have seen in the Sudanese desmids there are many new and strange forms still to be discovered. I have recently sent to Grönblad about 150 drawings of desmids from a small lot of material from Uganda that he sent me, and he will publish them later. Most of them were rather uninteresting cosmopolitan species, and I think there were only 2 or 3 novelties in the lot. If the water resources man in Pretoria is going to collect especially for desmids it might be well to give him some dope on the best places to look for them, i.e., soft, acid water, on soils derived from acid rocks like sandstone, quartz or granite, not limestone or other basic rocks; and to get the material by squeezings from aquatics like Utricularia, Myriophyllum, Najas, Cabomba, etc., rather than by plankton net.

It will be at least a year before I could start on your material, perhaps longer. I have just finished the Ms. of a big paper on Indonesian desmids describing 526 taxa, and with 63 plates of illustrations. Now I am checking the Ms. for the numerous errors that I make in typing. After I get rid of this I must ~~start~~ resume work on a nice lot of collections from the Amazon and Rio Negro regions of Brazil, already partly worked up, and long overdue. After that I ought to start listing the known desmids in my own collections from southeastern USA, of which only the novelties have so far been published. Also I have on hand some miscellaneous collections from various parts of Australia, and others that I collected several years ago in Mexico, Guatemala, Panama and Cuba. So you see I have plenty of stuff to keep me busy for some years, but if there is not too much of your African material I can no doubt sandwich it in somewhere. I have most of the requisite desmid literature on Africa, but for forms that cannot be found in the literature, and which may be new, it is necessary to refer to a big iconograph like Prescott's. Do they have anything like this at the Academy?

Grönblad and I have had several complimentary comments on our article in Taxon, but unfortunately it was written while we were under a misapprehension as to the meaning of "later starting point". It seems that all desmidiologists, including ourselves, have overlooked a "sleeper". If you will refer to Article 13 in the 1956 Code you will see that it starts thus: "Valid publication of names.....is treated as beginning at the following dates" (1848 for desmids). This means that names published before 1848 were not validly published, and in effect do not exist unless they were later revalidated by someone else. A good example is Closterium libellula Focke 1847. Ralfs did not see Focke's work, and he published the same desmid as Penium closterioides Ralfs 1848. Of course everybody uses Focke's name for the plant, but according to the Code the name is invalid, and the correct name would be Closterium closterioides, though

the combination is nonsensical since it simply means a Closterium-like Closterium. So what Silva is trying to do, apparently, is to remove from the Code the 1848 starting point for desmids, which would have the effect of reinstating all pre-1848 names. But it is absurd, I think, to make the starting point for desmid nomenclature May 1 1753, when their very existence was unknown. It would be just as logical to make the nomenclature of viruses start in 1753, though the first virus was not discovered until about 1892.

Here is something that you might be able to do for me, when you find a suitable opportunity. In September 1952 I sent to Dr. Matthew H. Hohn, at the Academy, 38 collections from Mexico, Guatemala, Panama and Cuba (the same lot mentioned above). These are not very good for desmids, but some of them contain a fair number of diatoms. He acknowledged their receipt, and wrote that he could probably work them up during the winter of 1952-53. Since then I have heard nothing from him, and don't know if he published them, or even if he did any work on them.

With my best regards, and good wishes for success in your new position,

Sincerely yours,

U.S.A.

June 26 1959

H. R. Engelmann (J. Cramer).
P.O.Box 166,
Weinheim/Bergstr. Germany.

Dear Sir ,

Please enter my subscription to:

Nova Hedwigia

also

Die (Desmidiaceen) Gattung Cosmarium.

Very truly yours,



DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

PUBLIC HEALTH SERVICE

Bureau of State Services
Arctic Health Research Center
P. O. Box 960
Anchorage, Alaska

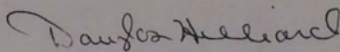
June 11, 1959

Mr. Arthur M. Scott
2824 Dante St.
New Orleans 18, Louisiana

Dear Mr. Scott:

Two years ago I submitted for publication a paper on the algae of central Alaska, and in which Fr. Irénée-Marie did the desmids. The MS was eventually returned with a comment from the referee that the desmid material should be reevaluated in light of the recent work done by Dr. Hannah Croasdale. In asking Dr. Croasdale if she would be interested in appraising the MS, she declined, since she felt such actions would somehow offend Fr. Irénée-Marie. She did, however, suggest that I ask you to learn if you would be interested in doing this for me. Therefore, Mr. Scott, I would be very much obliged to you if you would care to do this for us.

Sincerely yours,


Douglas Hilliard

June 15 1959

Dr. Douglas Hilliard,
Arctic Health Research Center,
P.O. Box 960,
Anchorage, Alaska.

Dear Dr. Hilliard,

Your letter of June 11th was a big surprise to me, and I cannot help wondering to that journal you submitted the paper, who was the referee and whether he himself is an expert desmidiologist.

I don't know Fr. Irenece-Marie personally, but I have corresponded with him occasionally for 15 years or more. In my opinion he is one of the best desmidiologists in North America, and certainly he is far more competent to deal with Alaskan desmids than I would be, for my experience is almost exclusively with tropical and subtropical species.

Dr. Hannah Croasdale is a personal friend of mine; she has done all my Latin diagnoses for many years. Her papers on Alaskan desmids are excellent, and I am not aware that there is any great degree of difference between her work and that of Irenece-Marie, though there may be differences of opinion as to the identification of some species or varieties. Such disagreements are inevitable between any two experts in any line of endeavor. She was perfectly right in declining to revise Irenece-Marie's work on your desmids. Such an action would be unthinkable without his express permission, and even to ask a specialist of his high standing for such permission would be a direct insult. I happen to know that he is peculiarly sensitive to criticism, and I am quite sure that he would be deeply offended.

My suggestion would be that you recall your paper and find another journal for publication, one that does not have such persnickerty referees. I think that Dr. C.W. Prescott, editor of *Trans. Am. Microsc. Soc.*, would be glad to get your paper if it is not too long. He is the Dean of American desmidiologists, and has himself made two collecting expeditions for algae in the Point Barrow region of Alaska, so he would not have to refer to anyone else for an opinion. He is probably away for the summer, but if you write him at the Dept. of Botany, Michigan State Univ., East Lansing, Mich., the letter will be forwarded.

Another suggestion would be *Hydrobiologia*, published at Den Haag, Nederland. The editor is Paul van Oye, Univ. of Ghent, Belgium. He also is a desmidiologist, and has published many papers on desmids, by Irenece-Marie, Croasdale, Prescott, myself, and others. He has never suggested the slightest change in any of my manuscripts.

There is one thing I might caution you about. Irenece-Marie makes many mistakes in the spelling of author's names and specific epithets, which detracts from the appearance of his papers. He invariably spells the name of E.O. Hughes as "Hugues"; he is apt to omit the umlaut from Grönblad and from other German names and Swedish ones; so you had better check all of them carefully if the paper is your responsibility.

Sincerely yours,

Cc to Dr. Hannah Croasdale.

March 6 1959

Dr. Carl Huzel,
Amstetterstr. 49.
Stuttgart-Hedeltingen,
Germany.

Dear Dr. Huzel,

I received your postcard in January, and three days ago came the copy of your 1956 paper on the Microflora of the Rauhen Wiese bei Böhmekirch, for which please accept my best thanks.

This is a very fine piece of work, remarkable in that you found no less than 154 genera of algae in such a small area. The desmids are the only group that I am familiar with, and I see that you found nearly all the known genera, except a few that are known only from tropical and subtropical countries.

Your drawings are excellent, and they appear all the more beautiful because the illustrations were reproduced from your pencil drawings by the half-tone process, using a very fine screen. I think my own drawings look much nicer in the original pencil than after they have been inked. Unfortunately it costs more to use the half-tone process, and all scientific journals nowadays are so pinched for money that the editors cannot accord the half-tone.

In his foreword the editor paid you some very nice and well-deserved compliments. A particularly happy phrase is: "Und schliesslich entpuppte sich Huzel als ein Zeichenkünstler von hohem Rang".

I am 71 years old, and have lived in New Orleans for the last 53 years, having been born in London, England. I have specialized on sub-tropical and tropical desmids, and my latest work is on those from Indonesia, with 63 plates of drawings depicting about 540 different desmid taxa, of which some 150 are new to science. I shall send you a copy when it is published, but this cannot be before next year.

With my best regards and good wishes,

Sincerely yours,

11. Juli 1958

Sehr geehrter Herr Kollege!

Wir haben von unserem verehrten Altmeister der Desmidia-
ceenkunde, Dr. Kopetzky-Rechtperg, wiederholt Sonderdrucke von
Ihnen geliehen bekommen.
repeatedly
borrowed obtained

Bei uns steht die Zellphysiologie im Vordergrund, aber
da für viele Zwecke die Desmidia-*veen* vorzügliches Material bieten,
da auch ich und meine Schüler seit langem mit Passion Desmidia-
ceen in unseren alpinen Mooren sammeln, gehören wir auch zu den
ständigen Freunden dieser schönen Algen. Ich würde mich freuen,
wenn Sie mit meinem Institut in Schriftentausch treten wollten.

Mit dem Ausdruck vorzüglicher Hochachtung
ergebenst

Karl Hörl

May 26th 1958

Dear Sir,

Excuse me for not earlier having thanked you for the sending of your paper on Sudanese Desmids in cooperation with Dr. Grönblad.

The reason for this delay is that I hoped to include a small paper on Desmids in the Netherlands, but difficulties in issuing our Netherland's Limnological Society's publication have caused a long delay in the printing.

Meanwhile I had the pleasure of receiving some very rich Desmid-samples from a colleague and former pupil in Indonesia (Sumatra). With Krieger's papers (a.o. that on the German Sunda-expedition) it is easy to identify a majority of the species; some of the others will be new.

The general aspect and the list of species is quite different from European and U.S.A.-samples. While I have always been astonished by the agreement of the Dutch Desmid-flora with those from the Scandinavian ~~samples~~ mountains and from Canada and the Northern USA these Indonesian samples show quite an other range of species.

At the other hand a number of interesting and prominent types reappear in these Sumatran samples that are known from different other tropical countries. So in your recent paper on Sudanese Desmids I count at first sight: *Triploceras gracile*, *T. verticillatum*, *Micrasterias alata*, *M. radians*, *M. tropica* and some almost identical *Euastrum*-forms.

Since long I am quite convinced that only a relatively small number of species is really cosmopolitan, while a great majority can be divided in a pantropical and a circumboreal element. Perhaps the latter has to be subdivided in a circumatlantic, a mountain-, a continental and still other subelements, as indicated in Donath's papers and mine of 1932.

In the same way a large pantropical element will perhaps have to include subelements for South-America, tropical Africa and for the Far-East. For instance *Micrasterias anomala* and *M. Moebii*, both very abundant in the Sumatra-material seem to be restricted to S.E. Asia.

In these Sumatra-samples quite a range of forms is to be found of e.g. the species "*Micrasterias Moebii* (Borge) W. & W." I quite agree with Teiling that this species can better be brought back under *Euastrum* in the group of *Eu. verrucosum* as was already suggested by Borge in 1897. But as the peculiar ornamentation of the cellwall is such a prominent characteristic of this whole group, and transitions in outer form to *Micrasterias* can not to be denied I should like to propose to separate them from *Euastrum* as well as from *Micrasterias* and unite them into a new genus "*Verrucastrum*".-

Before publishing this proposal I should be very glad to hear your opinion on this. *idea*.

Ofcourse this new genus would have to include quite a number of species e.g. a great part of those numbered 130 - 147 in Krieger's list in Rabenhorst 1937.

Most respectfully
yours

W. H. Silliman

Dear Sir,
I am sorry to hear that you are not earlier having checked you for the sending of your paper on the genus *Desmids* in cooperation with Dr. Grönwald.

The reason for this delay is that I hoped to include a small paper on *Desmids* in the *Wetters*, but difficulties in issuing our *Wetters*'s *Limnological Society's* publication have caused a long delay in the printing.
Meanwhile I had the pleasure of receiving some very rich *Desmids*-samples from a colleague and former pupil in Indonesia (Gusman). With Krieger's papers (l.c.) on the German *Desmids* - expedition it is easy to identify a majority of the species; some of the others will be new.

The general aspect and the list of species is quite different from Krieger's and W.S.A.-samples. While I have always been established by the agreement of the Dutch *Desmids*-lists with those from the Scandinavian countries and from Canada and the Northern USA these Indonesian samples show quite an other range of species. At the other hand a number of interesting and prominent types appear in these *Desmids* samples that are known from different other tropical countries. So in your recent paper on *Desmids* I count at first sight *Tridocera* species.

Since long I am quite convinced that only a relatively small number of species is really cosmopolitan, while a great majority can be divided in a pantropical and a circumtropical. Perhaps the latter has to be subdivided in a circumtropical, a circumatlantic, a circumindian, a circumpacific, and a circumantarctic, as indicated in *Wetters*'s papers and mine of 1932.

In the same way a large pantropical element will perhaps have to include subdivisions for South-America, tropical Africa and for the Far-East. For instance *Micrasterias* *indiana* and *M. hawaii*, both very abundant in the *Desmids*-material seem to be restricted to N.E. Asia.

In these *Desmids*-samples quite a range of forms is to be found of e.g. the species *Micrasterias hawaii* (Krieger) W.S.A. I quite agree with feeling that this species can better be brought back under *Verticillium* in the group of *Verticillium* as was already suggested by Hodge in 1897. But as the peculiar ornamentation of the cell wall is such a prominent characteristic of this whole group and variations in other forms to *Micrasterias* can not to be denied I should like to propose to separate them from *Desmids* as well as from *Micrasterias* and unite them into a new genus "*Verticillium*".

Before publishing this proposal I should be very glad to hear your opinion on this matter.

Digitized by Hunt Institute for Botanical Documentation

June 17 1956

Dear Prof. Heimans,

It was a pleasant surprise to receive your interesting letter of May 26th, and to know that you are in good health and actively working; I think this is rather remarkable at your age. I hope that your wife also is enjoying good health, and that you will give her my best regards.

I was 70 years old last January, still reasonably healthy, but I no longer have the energy to spend the long hours on my desmids that I did even as recently as five years ago.

I am sure your first look at the Sumatran samples must have astonished you, with their richness in strange and highly developed desmids that are so different from the well-known European and American species. As you have noted, there is a fairly large group of desmids that seem to be confined to tropical and subtropical regions, though some of them occasionally find their way into much colder places, e.g., *Micrasterias foliacea* in Canada, and *M. alata* in Japan, and others that were reported by Hirano. Included in this larger group are certain smaller ones that at present are known only from the tropical regions of S. America, Africa, Asia and Australia, but as more of these little-known regions are explored for desmids, even this distinction is slowly breaking down. For instance, *Xanthidium sansibarense* and *X. calcarato-aculeatum*, originally found in Africa, also occur in Indonesia. *Micrasterias arcuata* is supposed to be a purely American species, but recently I found, from Sumatra, specimens of *M. arcuata* var. *robusta* f. *recurvata* Presc. & Scott (1952) that are so nearly identical with those from southern U.S.A. that it would be hard to tell them apart if they were side by side under the microscope. And there are many more examples. As to the circumboreal element I can say very little, because all my experience has been with tropical and subtropical collections.

No doubt you will remember, from our conversation at the Schiphol Airport, which I remember quite vividly, that I told you I was working on a large series of collections from Indonesia sent to me by Mr. M. Sachlan, with whom I think you had some correspondence. I have been working on them, though not continuously of course, since 1952, and I am glad to say that the task is now approaching completion. All the determinations have been made, in collaboration with Prof. Prescott, and I have written the rough draft of the manuscript with description of all the taxa. Now I am drawing the plates of illustrations, and have just finished the genus *Xanthidium* on Plate 41. There will be a total of about 60 plates, showing more than 500 desmid taxa! It is intended for publication in *Reinwardtia*, and because of its length and the large number of plates it may have to be divided into two parts, the first of which could not appear before next year. The collections studied came from Borneo, Java, Bali and Sumatra, and a rather curious thing is that more than half of the species are contained in the Sumatran material, most of which was collected in the swampy region around Palembang.

Another paper that will be of interest to you is one that Prescott and I wrote in 1952, but which has only just now reached the publication stage. It is supposed to appear next August, but it will probably be near the end of this year before I get the reprints for distribution. It deals with the FW Algae collected on a Government Expedition to Arnhem Land in the Northern Territory of Australia. The desmid-flora of tropical Australia is quite similar to that of the Indo-Malayan-Indonesian region, and we found many species, some of them quite rare, that are common to both regions.

Micrasterias anomala is really anomalous! In the Indonesian material

it occurs in four different forms; 1) the specific form; 2) a somewhat simplified form that I have named *fa. reducta*; 3) a new variety, *var. sumatrana*; 4) another new variety, *var. kalimantana*, named for Kalimantan, the new Indonesian name for Borneo. The two new varieties show such a strong resemblance in size, shape and structure, to *Xanthidium bifurcatum* Borge, from Australia, that I am convinced that it will be necessary to transfer Borge's plant to *Micrasterias*. But the Australian plants also show a great deal of variation, and so far not enough is known about them to undertake the revision.

It is quite a strange coincidence that you should tell me about your proposal to transfer *M. Möbil* back to *Euastrum*, because I have already written a short paper on this very subject, and have made the formal transfer. The paper was written just before last Christmas, and it had to be approved by Prof. Prescott; but he went away for the Christmas holidays and then early in January he left on his third expedition to Ecuador, whence he only returned about two weeks ago. So the paper is now in his hands for approval, and as soon as he returns it I will send it to Reinwardtia for publication. *M. Möbil* is even more variable than you suspect! I have two completely new and different varieties and one new form from Australia, and another new form from Borneo. Two of these new taxa are in the Arnhem Land paper; the other two in the new paper. I have gone into considerable detail, and have discussed each separate feature of the plant, such as the laterally extended and divided polar lobe, the doubling of the upper lateral lobes, the central tumour and its ornamentation, the scrobiculate cell-wall, and the overall shape of the plant, and have given examples of how each of these features can be found in *Euastrum*, but very few of them in *Micrasterias*. Also I have asked Prescott for his opinion as to the transfer of *Euastrum turgidum* to *E. möbil* as *var. turgidum* comb. nov. I have seen only a few specimens of *E. turgidum*, but its structure is identical and the only differences from *E. möbil* are in matters of degree, which are not sufficient to justify separate species.

As to your proposal to create a new genus "*Verrucastrum*" to receive Krieger's *Euastrum* species Nos. 130-147, I must confess that I cannot see that anything would be gained. Krieger has already separated them into his groupings Nos. XXXIV to XXXVII. These species differ from other *Euastra* principally in the shape of the cells, and in the ornament of a central rosette of verrucae. However, a central swelling with a group of 3 or 4 granules, or a rosette of granules or verrucae, is found in many other species that have the typical *Euastrum* shape with the deeply incised polar lobe. So as far as I can see the only characteristic that you could use to justify a new genus would be the general shape of the cells, resembling a cross or a star. But in all the more highly evolute genera there are groups of species that differ greatly from the original generic diagnosis, and many attempts have been made during the last century to separate them into different genera or sub-genera. Today none of these names, like *Galocylindrus*, *Cosmaridium*, *Pleurotaeniopsis*, *Holacanthum*, *Schizacanthum*, *Pleurentaenium*, is recognized; all of them have fallen into desuetude, and I am afraid that your *Verrucastrum* would suffer the same fate.

Of course this is only my personal opinion, and it may be that other workers would hold quite different views. So perhaps it would be advisable for you to ask other desmidologists what they think of your proposal.

I am extremely glad to have heard from you again, and I send you my best regards and good wishes.

Sincerely yours,

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November 12, 1957

Mr. Arthur M. Scott
2824 Dante Street
New Orleans, Louisiana

My dear Mr. Scott:

Professor Joseph Ewan has kindly forwarded to us for addition to the collection the greatly appreciated gift copy of your article on new desmids from the Southeastern U. S.

We send you our cordial thanks for this welcome and useful item, and we shall be delighted to have it for addition to our resources.

Yours gratefully and sincerely,

Garland F. Taylor

Garland F. Taylor
Director of Libraries

GFT:cbl

Nov 7 1957

Hecht Book Shop,
4207 Olive St.
St. Louis 8, Mo.

Gentlemen,

Thanks for sending me your Natural History catalogue, and am sorry to find that Prof. Egan made a mistake in telling me that the price of Nordstedt's Index Desmidiacearum was \$3.00.

The book is not worth \$3.00 to me, because I now have it and the supplement in paper bindings, so I would like you to return my check, because there is nothing else on your list that I want.

If your mailing list does not include the name of Dr. G. W. Prescott, Dept. of Botany, Michigan State University, East Lansing, Mich., you might send him your catalogue. He is interested in literature on fresh-water algae.

Very truly yours,

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Nov 1 1957

Mr. W. B. Hecht,
3965a Shenandoah Ave.,
St. Louis 10, Mo.

Dear Sir,

Prof. Joseph Eawn, of Tulane University, informs me that when he was in St. Louis recently he saw in your store a copy of Nordstedt's "Index Desmidiacearum" priced at \$3.00. If this is still available please send it to me. I am enclosing my check for \$3.00, and if there is an additional charge for postage I will pay it upon receipt of your bill.

Very truly yours,

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W. B. Hecht

MICHIGAN STATE UNIVERSITY
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DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

4 October 1957

Mr. Arthur M. Scott
2824 Dante Street
New Orleans, Louisiana,

Dear Mr. Scott:

I hope that this letter finds you and Mrs. Scott in good health. Since your last visit here my research has changed considerably. I am now giving up the applied problem of algae control at Spring Lake and am taking up a problem on the taxonomy and ecology of alpine algae. Doc has many collections here from alpine regions and I am planning to go with him to Montana next summer. Meanwhile this year I have taken on some of the desmids-NSF work. It certainly will be wonderful if and when you people get that monograph published.

As you know, I believe, Dr. Sara Yacobson of the University of Buenos Aires is here using the iconograph. I think that she has written you requesting that you send her your papers-she would also like to have a copy of your recent paper with Grönblad.

I too would like to have a copy of your recent paper. The drawings, like all you've done are excellent. I think that someday I will hop into the car and come to New Orleans and see your camera lucida set-up. I hope that the desmid drawings that I am about to start for you four people will be acceptable.

Best Regards,



Phillip Halicki

Doc is now going full speed in preparation for his forthcoming Ecuador trip.

Oct 8 1957

Dr. Phillip Halicki,
Dept. of Botany,
Michigan State University,
East Lansing, Mich.

Dear Phil,

Glad to have your letter, and I have sent you a copy of the USA paper by Grönblad and myself. Please tell Dr. Yacubson that a copy of this paper is on the way to Buenos Aires and it ought to be waiting for her upon her return there. Last week I had a letter from Fr. Irene-Marie telling of a visit that she paid him.

Your new problem on alpine algae sounds very interesting. Not much work has been done on this subject in the USA, and I should think there may be a good many new desmids in Doc's collections from the Western States. I would like to know more about what you are going to do in relation to the NSF project; are you going to copy any of the drawings in old publications? When the time comes, I can send blueprints or white prints of some of my large plate drawings, which will be easy to trace from, and of the correct size. Unfortunately I do not have all of the older plates.

My microscope is a binocular with inclined ocular tubes. As you probably know, if the mirror of the camera lucida is attached to an inclined tube, the drawing must be made on a surface that is inclined from the horizontal at an angle complementary to that of the ocular tube, which is very inconvenient. To get around this I detached the mirror from the microscope and mounted it on an independent support fastened to the table, and made from a bent piece of flat aluminum bar. Also I moved the mirror further away from the microscope, to a distance of 6", which gives a somewhat larger drawing, and gets the drawing away from the base of the instrument so that there is no interference from the control knobs. Another thing I did was to shorten the square mirror support bar, or rather make a new and shorter one, so that my cylindrical plastic cover for the scope can be placed it over without the mirror bar interfering. My lamp for illuminating the drawing paper is an ordinary desk lamp with flexible arm, such as you can buy at the chain drug stores for \$2.49 or thereabouts. I used to use a 15-watt lamp, but recently I changed to a 25-watt, with better results. But all this would be unnecessary in your case, since you will use a vertical monocular scope, I believe. However, I do recommend placing the mirror on an independent support and moving it to a distance of about 6" from the center of the mirror to the optical axis of the scope.

Most of my drawings are made with a combination of 20x compensating eyepiece and 44x apochromatic objective, which gives a magnification of about 1650x on the drawing. I use this for all desmids up to about 90 μ long; for larger ones I use lower power eyepieces, and for the very long *Pleurotaenia* and *Glosteria* it is sometimes necessary to change to the 10x objective. For very small desmids, 15 μ or less, I use the 20x eyepiece and the 60x objective to get the outline, and then fill in the details freehand, because the magnification is too high for good definition.

Hope these hints will be useful; and if you ever get down this way I shall be delighted to see you and show you my setup.

With best regards,

Sincerely,

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Arthur W. Scott

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Hugo de Vries-laboratorium,
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Amsterdam, Sept. 25th, 1956
priv. adr. Quinten Massijsstr. 4.

Dear Sir

I beg to return my best thanks for the publications you were so kind as to send me.

The wild variation in *S. tibrachiatum* reminds me of the semi-triquetrous forms of *Microasterias truncata* (Heimans 1942, pp. 57 fig. 10-14) which I think now may have been caused by doubling of the nucleus through disturbed cell-division by shaking or rocking of the water. Is there any possibility of such a cause in your case?

yours
Heimans

Oct 5 1956

Dr. J. Heimans,
Quinten Massykstr. 4.
Amsterdam, Nederland.

Dear Dr. Heimans,

I was glad to get your postcard of Sept 25th acknowledging some of my papers.

I am sorry that my knowledge of cytology is so small that I cannot discuss the subject with any authority, and you should bear this in mind in considering the remarks that follow. Your suggestion that your semi-triquetrous forms of Micr. truncata were caused by a doubling of the nucleus seems quite plausible, but your further suggestion that the doubling might be caused by a shaking or rocking of the water does not appeal to me as being a very likely cause. It seems to me that a much more violent disturbance would be required than I can imagine would occur naturally. I say this because last year, when Dr. Grönblad and I visited Dr. P. Kallio at Turku, he demonstrated for us his method of producing teratological forms of M. Thomasiana var. notata by centrifuging, which is a very interesting and delicate procedure. He has some glass tubes, about 75 mm long and perhaps 6 or 8 mm diameter, drawn out at one end to a rather fine point and sealed. Into such a tube he introduces with a capillary pipette a single Micrasterias cell, allows it to sink until it wedges itself in the tapered bore. Then he observes it under the microscope to see if the cell is oriented properly, which should be with the line of the sinus more or less parallel with the axis of the tube. If it not oriented properly he shakes the tube and allows the cell to wedge itself again, and observes it once more, and repeats the process if necessary. Then he centrifuges the tube at 2000 or 3000 rpm for about 30 to 45 seconds to displace the nucleus from its central position, and observes the cell once more to see if the displacement has occurred. Then he removes the cell and places it in a culture solution where it will grow and divide, and if all goes well it will produce one of his monstrous forms. The centrifugal force that he employs, it seems to me, must be far greater than any that could occur naturally. Again, the nucleus in St. bibrachiatum is so very much smaller than that of M. Thomasiana or M. truncata that a much larger force would be required to displace it, or to cause its doubling.

The two habitats in Mississippi where I found both the 4-armed and the 8-armed forms of St. bibrachiatum are very small bodies of water. One of them which I remember clearly is a shallow pond, perhaps 20 x 60 m. in size, and no more than 1 m. deep at the center, and the margins of the pond only a few cm. deep, diminishing to nothing at the extreme edge. In such a small pond the waves caused by even a violent wind would be very small. The most violent disturbance that I can imagine would be caused by throwing a large stone into the water, but such a shock would be practically instantaneous and therefore probably incapable of moving the nucleus through the viscous cytoplasm. Consider that 30 seconds of fairly high speed centrifuging is required to accomplish this result.

If such a disturbance were capable of influencing St. bibrachiatum you would think that it would also affect other species, but there were no other abnormalities observed, though plenty of other desmids were present.

Again, whatever cause is responsible for the variation on St. bibrachiatum must also occur in the other widely separated places from which the same identical forms have been reported, USA, Italy, Morocco, Egypt, and Madagascar, and Azores. This does not look like an accidental occurrence.

I expect that every desmidiologist has encountered similar abnormal specimens, though usually they are confined to a single collection. In a forthcoming paper in which Grünblad and I have collaborated, you will see examples of teratological forms of two or three species of *Staurastrum*.

My own 'explanation' of these and similar phenomena is that certain desmids, and particularly the larger and more elaborate species, have a certain 'inherent instability' or 'tendency to variation', which I believe is inexplicable in our present state of knowledge. It is true that the cytogeneticists offer some kind of explanation, as Kellio did in the case of *Amecottia mira*, but they use such a strange and difficult language that I must confess my inability to comprehend it, which, of course, is because I am an engineer with no training in any kind of biology.

I am enclosing a blueprint of one of my sketches, showing a type of abnormality that I believe has not been recorded previously. As you will note, the upper or parent semicell has the basal part doubled, with two lateral lobes on each side, and further that this semicell has two isthmuses, from each of which there has grown a new and perfectly normal semicell. In other words this original semicell has given birth to identical twins!!! Only this one example was seen, and though I made a search in an effort to find the other abnormal semicell, I was unable to find it, so no more information is available that is shown on the sketch.

At present I have four desmid papers in press, and shall be glad to send the reprints when they become available. Also I shall be glad to have your comments or questions on any of my works.

I remember with pleasure our short visit in the airport at Amsterdam, and I beg that you will give my best regards to your good wife, and accept the same for yourself.

Sincerely yours,

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I have just seen a brief notice of a new paper by H. Waris, "Splitting of the nucleus by centrifugation (*Microsterias*". *Rapp. Comm. 8me Congr. Int. Bot.* 9: 29-31. I have not seen the paper itself.

April 25 1955

Prof. Dr. J. Heinmans,
Hugo de Vries Laboratorium,
University of Amsterdam, Holland.

Dear Professor Heinmans,

Today I received your card acknowledging the Amscottia paper; also today I have sent to Java the manuscript and drawings of a short paper by Prof. Prescott and myself, to be published in Reinwardtia, concerning some very curious cases of dichotomy in Staurastrum Wildemani, involving no less than four different forms which form three different types of dichotomical cells.

I think that a few years ago Mr. M. Sachlan sent you some of his Indonesian algal collections, and that you told him you would not be able to work them up. He then sent the material to me, and also a lot more, which I have been studying for the last 2½ years, and I hope that by 1956 Prescott and I will be able to get up a much longer paper on this very rich material.

Next week my wife and I are going to England, and in the latter part of June I shall go to Sweden to spend a few days with my friend, Lektor Einar Telling, and then to Finland to spend three weeks with Dr. Rolf Grönblad, with whom I am collaborating on a valuable series of collections from Brazil, and a truly amazing collection from the Sudan. The latter contains some of the wildest desmids that you could possibly imagine.

On Monday, June 20th, I shall fly from London to Stockholm by way of Amsterdam, where I have to change planes. I shall arrive in your city at 10.30 am on KLM flight 118, and leave Amsterdam at 12.00 noon on SK flight 552. This leaves 1½ hours between planes, which would not be sufficient time for me to visit you at your Laboratory, but it occurred to me that it might be possible (if it is agreeable) for you to meet me at the airport, where we could chat for an hour or so about desmids and other things. It would be a real pleasure and privilege to meet you in person, and I should have a lot to tell you about the Indonesian material, including another new genus in the Desmidiaceae.

I shall, of course, have my ticket validated at the ticket-office of the Swedish Airline, where you could find me, and if I am not within sight they could have me called. Also I could send you a photo so that you could recognize me.

So if this meeting would be agreeable to you, please drop me a few lines at the following address:

c/o Mrs. E. M. Nixon,
"Greenhow", Roundham Gdns.
Paignton, S. Devon., England.

This is my sister's address, and we shall stay there from May 29 to June 19, but if your letter should arrive sooner she will either forward it to me in London or hold it until we get to Paignton.

With my best regards,

Sincerely yours,

Prof. Dr J. HEIMANS
TEL. 71 21 80

AMSTERDAM-Z.,
QUINTEN MASSIJSTRAAAT 4

June 6th, 1955

Dear Sir,

In agreement to your kind letter of April 25th I beg to state that I highly appreciate the opportunity of making your personal acquaintance and will try to meet you at the Amsterdam airport "Schiphol" on June 20th.

It is not very easy to get allowance to pass the sanitary and custom-barriers, but I hope to manage that and to see you at the waiting-room for depart of the Scandinavian airlines.

Please look for a short grey-haired person. I hope to be accompanied by my wife.

With kindest regards

yours truly,

J. Heimans

April 11 1955

Dr. Friedr. Hustedt,
Ingalheimer Str. 7,
Bremen 4, Germany.

Dear Dr. Hustedt,

I am sorry that in copying the list of Australian habitats I accidentally omitted #305. It comes from Standley Chasm, the same place as #304.

Many thanks for the reprints of your papers; I am glad to see some of the new species and varieties from Brazil, and to see that you have named one of them for our friend Dr. Sioli. Grönblad and I have a number of new and curious desmids from his collections, and of course we shall apply his name to some of them. Sioli has promised to send more stuff from his new location at Manaus; I wonder what curiosities they will contain. If any of them are as rich as those from the neighbourhood of Santarem they will indeed be exciting to work with.

I was much interested in your remarks about the nuisance of Latin diagnoses, with which I thoroughly agree. I have had a little correspondence on this subject with Dr. W. H. Camp, one of the Officers of the American Society of Plant Taxonomists. His attitude astonishes me; he admits privately that they are a nuisance, but says that he will continue to vote in favour of Latin, otherwise he says the result would be chaos, with formal descriptions published in a couple of dozen different languages. I suggested that if Latin cannot be abolished, that it be made permissible to write the diagnoses either in Latin or in one of the three major modern languages, English, German or French. All serious workers in any science must necessarily be able to read one or more of these three. If representatives of the smaller nations object, they should be out-voted. I am corresponding with many persons all over the world, whose languages I do not know, - Sweden, Finland, Portugal, Spain, Czechoslovakia, India, Indonesia, Japan. They write either in English, French or German, and I reply in English or French. Sometimes their English is rather quaint, as is doubtless my French, but we get along very nicely, and there is never any trouble in understanding each other.

For my part, it would not matter if the formal description was written in Japanese, if the name was printed in Roman characters, and if it was accompanied by a good drawing, for it is the drawing alone that conveys to the reader's mind the exact impression of the object, and far better than a description of any length could do.

Enclosed are a few drawings of diatoms that I made while I was working on the Brazilian material, merely because they looked unusual. I sent them to Mr. Paul Conger of the Smithsonian Institution, and he returned them with some notes written on the reverse side of the sheets. I have no further use for them, so you may keep them if you wish.

Thanks for the pretty stamps on your letters. I do not collect them, but send them to a friend in Java, who has sent me some valuable algal collections. I should be glad to have more stamps from other parts of the world, if you get them and do not want them.

With kind regards,

Sincerely,

Dr. FRIEDR. HUSTEDT
BREMEN 4
Ingelheimer Straße 7

BREMEN, den 7. April 1955.

Dr. Arthur M. Scott
2824 Dante Street
NEW ORLEANS 18, LA.
USA.

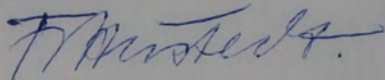
Dear Dr. Scott,

Yesterday I received the reprint of the paper with the very interesting desmid and the two boxes with the tubes which arrived in good order. I read the paper and will send it back with reprints of my next papers. I hope that you received the reprints with some diatoms from the Amazonas region.

I have immediately begun to prepare the samples from Australia and I am sure to find many good species. In the list of localities which you sent me in your last letter, there must be an error. Among the samples I find the number 305, but this number is not mentioned in the list. Where does it come from?

With many thanks and all best wishes,

sincerely yours,



March 6 1955

Dear Dr. Hustedt,

Thanks for your nice letter of Feb. 15th. The papers have not yet arrived, but will no doubt come next week, and I shall be much interested to see what new diatoms you have found in the Brazilian material of Dr. Sioli.

I am sending you two boxes containing 28 samples of algal material from various parts of Australia, as shown in the enclosed list, which represents all the information that I possess concerning them. In some cases there is only a minute amount of material, which is all that I could spare from the very small quantity that I have.

About three years ago I sent to Dr. Ruth Patrick five tubes of material from Arnhem Land in the Northern Territory of Australia, so that she might work up the diatoms. I don't know if she ever finished the work, but fortunately there has been a delay in publishing the report of the expedition on which the samples were collected, so it looks as if it will be two years more before it is printed.

The material I have sent you does not include any of the samples that Dr. Patrick received, but some of them come from regions that are only a couple of hundred miles away, and it seems likely that some of the diatoms might appear in both lists.

Prof. Prescott and I have prepared a paper on the algae (exclusive of diatoms) in the Arnhem Land material, and we found a considerable number of unusual and distinctive desmids that appear to be restricted in their distribution to the Indo-Malayan-Indonesian-North Australian region, as has been noted by other authors. It will be interesting to see if you find a similar correlation in the diatom flora.

The next time you want to break up diatomaceous earth, or to clean delicate plankton diatoms, try the following method, which I stumbled on some years ago in my efforts to remove the cell-contents from desmids. I communicated it to Mr. Paul Conger, who says he has found it useful for diatoms, particularly delicate ones that would be injured by the usual treatment with strong acids. Soak the material for a few hours, or overnight, in a 5% solution of sodium hypochlorite (NaClO), then add hydrogen peroxide. There is a brisk reaction, and an abundant evolution of gas, usually resulting in the more or less complete removal of the organic material.

The enclosed reprint of a paper by Grönblad and Kallio describes an extraordinary new desmid genus that I found in one of Dr. Sioli's Brazilian collections. It differs from all others previously known in that the two semicells are not alike.

With kind regards,

Sincerely yours,

Dr. FRIEDR. HUSTEDT
BREMEN 4
Ingelheimer Straße 7

BREMEN. den 15. Febr. 1955.

Dr. A. M. Scott
2824 Dante Street
New Orleans 18, LA.

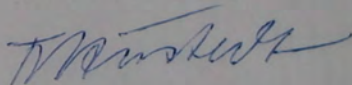
Dear Dr. Scott:

I have just received your letter of Febr. 12 which pleased me very much. I have still only one reprint of the paper you asked for, but I am sending it to you today by ordinary mail. I have included also another paper containing more species from Brazil—also the last reprint in my possession, all others are spent. In near future, I shall give in press a new paper, containing also some diatoms from Brazil, you will get a reprint later on.

I have seen the marine diatoms in Rio Guama but I have not, as yet studied these samples thoroughly, because I have more than 600 samples from Brazil and it will be a hard work to finish them. You will get my work on the diatoms of Brazil when it will be finished, I hope in the course of this year.

On page 136 in my paper: *Neue u. wenig bek. Diat. III*, ~~that~~ I describe a new *Actinella tasmaniensis* from Tasmania. So you see that I am very much interested to get more material from those regions, and I shall be very glad if you would send me the samples which you mentioned in your letter. I am just about to study some samples of Australia, and it would be very good if I could complete my researches by more material.

With kind regards,
sincerely yours,



List of freshwater algal collections sent to Dr. Friedr. Hustedt, March 7 1955.

From Alan B. Cribb, Dept. of Botany, University of Queensland, Brisbane.

- Tasmania. 118, 119, 120. Lake Dobson, Tasmania. Collected by Miss M. Shields, Jan. 1951.
124. Creek at Russell Falls, Tasmania. Collected by A. B. Cribb, Sept 5 1950.
127. Lagoon at Port Arthur, Tasmania. " " " June 21 1951.
- Queensland. 125. Pool betw. Harrisville & Ipswich, Queensland. Coll. A. B. Cribb, May 22 1951
126. Pools near Cunningham's Gap, Queensland. " " May 22 1951
128. Pools in creek at Springbrook, Queensland. " " Jan 9 1952

From H. B. S. Womersley, Dept. of Botany, University of Adelaide.

- South Australia 200. Waterfall Gully, South Australia. Coll. H.B.S.Womersley, Oct 20 1950
201. Mount Compass Swamp " " " " Apl 22 1951
202. " " " " Coll. H.B.S.Womersley & I.L.Ophel, Oct 15 1950

From Ray Specht, Dept. of Botany, University of Adelaide.

- N. Australia. 300, 301, 302. Palm Valley, Northern Territory. Collected by Peter Martin and
Dave Symons, June 6 1953
303. Water weeds, Palm Valley. Same collectors and date.
304. Standley Chasm, Northern Territory, Same collectors and date.

Palm Valley is in a small side-arm of the Finkle River, 15 miles south of Hermannsburg Mission, which is about 100 miles west of Alice Springs. It is a sandstone gorge with pools of water standing in its sandy base. The palm tree, Livistona Mariae, is prominent along the gorge. Marsilea sp. and other water weeds in the pools. This valley is a scientific curiosity because of the palms, etc. found there in the midst of arid territory.

Standley Chasm is in the MacDonnell Ranges, 30 miles west of Alice Springs. A slowly running, muddy stream is in the bottom of this Chasm, and is shaded by trees of Eucalyptus camaldulensis.

- N. Australia. 400. Kilu-Impini Creek, Melville Island, Northern Territory. Coll. W.Bateman,
401. Hot Spring, Mataranka, Northern Territory. Same collector and date 1952.
- N. Australia. 501. Pools by the Katherine River, N.T. Coll. by Caulfield, July 1953.
502. Pools along the Darwin River, N.T. " " " "
503. Lagoons 2 miles north of Bamboo Creek, 75 miles south^{west} of Darwin. " "
504. Paperbark swamps, Reynolds River Area. " "
505. Berry Springs. " "
506. Bamboo Creek, 80 miles southwest of Darwin. " "
507. Tube broken in transit and contents lost. " "
508. Finnis River Lagoon. " "
509. Berry Springs. " "
510. Lagoons on flats between Darwin and Finnis Rivers. " "

This is all the information that I have concerning the collections and habitats.

A. M. Scott.

Feb 12 1955

Dr. Friedrich Hustedt,
Ingelheimer str. 7,
Bremen 4, Germany, BRD.

Dear Dr. Hustedt,

Our mutual friend, Dr. Harald Sioli, informed me a couple of years ago that he had sent you a number of freshwater algal collections from Amazonia, in order that you might work up the diatoms. He has sent me portions of many (but I think not all) of these collections, for a study of the desmids, in which I am collaborating with Dr. Rolf Grünblad, of Karis, Finland.

In Sioli's last paper, "Beitr. zur regionalen Limnologie des Amazonasgebietes", he cites one of your papers, "Neue und wenig bekannte Diatomeen, IV", Bot. Not., Hefte 4, 1952, which apparently includes some of the Brazilian diatoms, and I should be grateful if you would send me a reprint. My knowledge of diatoms is very small, just enough to recognize the freshwater genera, but when I come across a lot of strange-looking diatoms like those in the Brazilian material, I am naturally curious to know what they are.

I am particularly interested in the collections numbered 54-57, made in the Rio Guama near Belém. The principal contents of these samples is a large assortment of marine diatoms, with perhaps some freshwater forms like the Surirellas, but they also contain a very few desmids, of species which I am certain could not live in even slightly brackish water. I assume that these desmids must have been carried down the river from some freshwater habitat. The sample No. 54 contains a few specimens, extremely rare, of a diatom which corresponds with the illustration of Di cladia capreolus Ehrbg. in Lefebure, Atlas pour la détermination des Diatomees, but according to Mr. F. C. Müller-Melchers this had since been determined as the resting spore of Chaetoceros lorenzianus. Did you find it?

Would you be interested in working up the diatoms in some Australian material that I now have on hand? It consists of a few collections from South Australia, Tasmania, southern Queensland, central Australia near Alice Springs, and north Australia near Darwin. In one of the south Australian samples there is the very rare diatom Stauroneis Fulmen Brightw., determined by Mr. Paul Conger. I am enclosing a sketch of it, which you may keep.

In your reply please write in German if you wish. I can read your language but cannot write it.

Sincerely yours,

Aug 24th 1951

Dr. G. Huber-Pestalozzi,
Englischiertelstr. 61,
Zürich, Switzerland.

Dear Sir,

Your postcard and the package containing 21 reprints of your papers arrived last night. I wish to thank you very much for your courtesy in sending me this generous gift.

I am particularly glad to have the papers dealing with desmids, and especially those dealing with South Africa and Java. It was somewhat of a surprise to see that the Javanese collections contained comparatively few desmids; evidently they were obtained from habitats that were not very favourable for these plants. By contrast, the Indonesian gatherings that I am working on, from Sumatra, Bali, Java and Borneo, are very rich in desmids, with some of the most unusual forms that I have ever seen. Included is the extraordinary Micrasterias ceratophora Josh. which differs so much from any other Micrasterias that Krieger excludes it with the words "wohl teratologisch". I have also seen this species from North Australia.

I am glad also to have your paper on Gloetiaenium Loitlesbergerianum Hansg. which occurs infrequently in my collections from southern USA. I do not possess Transeau's paper, so yours is the first I have seen that gives an extended discussion of this peculiar alga.

I think that you have received all the papers that Prescott and I have published. We have three more which should be published early next year, and I shall be sure to send you copies.

With renewed thanks, I am,

Sincerely yours,

Sept 11 1952

Dr. Matthew H. Holm,
Dept. of Botany,
Cornell University,
Ithaca, N.Y.

Dear Dr. Holm,

From your paper in the current issue of the Trans. Am. Microsc. Soc., I note that you are interested in freshwater diatoms, and from another paper in the same issue, by Prescott & Scott, you can see that my interest is desmids.

I know very little about diatoms, and have only a casual interest in them, but I have on hand a lot of material that I think some diatomist, somewhere, would be glad to get hold of.

What I have in mind at the present is a lot of about 30 or 35 collections of freshwater algal material from Mexico, Guatemala, Panama, Cuba, and Peru, which I gathered hoping to get plenty of desmids, but as it turned out there are more diatoms than desmids because of the water conditions which apparently were more favorable for your diatoms.

When I was in Washington a year or so ago I asked Paul Conger of the Smithsonian if he would care to work up and publish the diatoms, but he has too much other work on hand. I wonder if you would have the time and inclination to do this, or if not whether you can tell me of some other diatomist who could handle it.

Also I have another lot of stuff from South Australia, Tasmania, New South Wales, and a few from Queensland. In one of these gatherings I found a large and handsome diatom that Conger identified as Stauroneis Fulmen Brightw., a species that was not included in the large Smithsonian collection of slides, though he has some close relatives.

I should be very glad to hear from you at your convenience.

Sincerely yours,

With the compliments of the author
who will be glad to receive some of your
publications

Prof. Dr. J. Heimans
HUGO DE VRIES LABORATORIUM
HORTUS BOTANICUS
Plant. Middenlaan 2
AMSTERDAM

The ACADEMY of NATURAL SCIENCES
of PHILADELPHIA

FOUNDED 1812

NINETEENTH AND THE PARKWAY
PHILADELPHIA 3, PA.

TELEPHONE, Rittenhouse 6-7622

CABLE ADDRESS, Acadsci Philadelphia

September 17, 1952

Dr. Arthur M. Scott
2824 Dante St.
New Orleans 18, La.

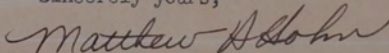
Dear Dr. Scott:

In answer to your letter of Sept. 11, it seems to be the same old story of being too busy at the present time. I am very much interested in your collections of diatoms from Central and South America and also from Australia, Tasmania, New South Wales and Queensland.

I anticipate that I will be able to look at them this winter. If you care to, you can send the collections and I will have slides made of them and try to get some work done on them as soon as possible.

I am also interested in desmids and other freshwater algae and would greatly appreciate it if you could send me reprints of your 1942 and 1943 papers if they are still available.

Sincerely yours,



Matthew H. Hohn
Limnology Department

MHH:ml

Nov 9 1952

Dr. Matthew H. Hohn,
Academy of Natural Sciences,
Philadelphia, Pa.

Dear Dr. Hohn,

I am sending you by parcel post a package containing 38 vials of freshwater algal collections from Cuba and Central America. The enclosed list of habitats gives all the ecological information that is available. I'll admit that it is meagre, and the reason is that I am an engineer, not a botanist, and there are very few of the higher aquatic plants that I can identify, even to genus. All the collections, except #11 and #12 from Cuba, represent squeezings from aquatic plants.

This material is yours, to handle as you see fit. I hope that you will be able to work up the diatoms, and if you publish anything on them please note that my only connection with your paper would be a mention of my name as collector, where that is the case. Of course, credit should be given to the other collectors.

If these samples are suitable for your use, I can you, later on, some similar collections from Australia and Tasmania.

Sincerely yours,

FRESHWATER ALGAL SAMPLES FROM GUATEMALA, PANAMA, MEXICO, CUBA & PERU.

Material collected by Arthur M. Scott, except where otherwise stated.

- Guatemala 1. Lake Amatitlan.
 Nov. 1951. 2. " " " "
 3. Artificial lily pond near Lake Amatitlan.
 4. Ditch 12 km south of Santa Maria, on road from Guatemala City to San Jose.
 5. " " 16 km " " " "
 6. Brackish swamp with mangroves at San Jose, on Pacific Coast of Guatemala.
 7. Ditch 6 km north of San Jose.
 8. " " 12 km " " " "
 9. Pond 13 km " " " "
- Panama
 Nov. 1951. 1. Pond #1, Summit Experiment Gardens, Canal Zone.
 2. " #2, " " " "
 3. " #3, " " " "
 4. " #4, " " " "
 5. Small artificial concrete lily pool, Summit Experiment Gardens.
 6. Rio Caimito, near Miraflores. Squeezings from Chara sp.
 7. Pond near Medro Miguel. " " " "
 8. Ditch near Chepo, about 30 miles east of Panama City.
 9. Backwater of Chagres River, at south end of Madden Dam.
 10. Ditch near Gatun. Scrapings from stems and leaves of Nymphaea sp.
- Mexico
 1949. 1. Zampole Lakes, about 50 miles from Mexico City. Collected by Robt. Schmidt.
 2. Drainage ditch at Tepotzatlán, about 30 m. from Mexico City. " "
 3. Rio del Purificacion, about 50 m. from Ciudad Victoria. " "
- Cuba.
 Dec. 1948. 1. Cayo la Rosa, 2 miles south of Bauta, Habana Prov.
 2. Pond 4 m. south of Bauta.
 3. Stream 2 m. south of Punta Brava, Habana Prov. Squeezings from Nitella sp.
 4. Laguna de Ariguanaba, near San Pedro, Habana Prov. " " Salvinia sp.
 5. Ditch 9 m. south of Managua, Habana Prov.
 6. Stream 10 m. " " " " " "
 7. Ditch near Batabano, Habana Prov.
 8. Swamp 1 m. East of Cuatro Caminos, Habana Prov.
 9. Arroyo la Plata, Rangel, Pinar del Rio Prov. Collected by Brother Alain.
 10. " " " " " " " " " "
 11. Water from leaf bases of Bromeliads (Guzmania sp.) " " " " " "
 12. " " " " " " " " " " " "

(Brother Alain is assistant to Brother León, Botany Dept., Colegio de la Salle, Habana).

Peru, 1951. Collected for A. M. Scott by Dr. Felix Woytkowski, a professional collector.

- Peru 1. & 2. Pond in Botanical Garden, Lima. Associated aquatics: Nymphaea, Ceratophyllum, Sagittaria, Juncus, Eichhornia, etc.
 3. ~~XXXXXXXXXXXX~~ Laguna Vile, 15 km. south of Lima. Abundant Eichhornia, Sagittaria, Typha (domingensis?) Utricularia, etc.
 4. Roadside ditch at Pampa del Sacramento, on the road to Pucallpa on the River Ucayali, Dept. of Loreto. Ceratophyllum, reeds and rushes.

Above collections sent to Dr. Matthew H. Hohn, Acad. of Nat. Sci., Philadelphia,
 Nov 8 1952.

Sept 27 1952

Dr. Matthew H. Hohn,
Dept. of Limnology,
Academy of Natural Sciences,
Philadelphia, Pa.

Dear Dr. Hohn,

Thanks for your letter and the reprints of your diatom papers. I have sent you copies of some of my desmid papers, but am sorry that my supply is exhausted of the first paper by Prescott & Scott, 1942. Probably you could get a copy from Prof. Prescott, but he is now in Alaska and will remain there until near Christmas.

Shortly I shall send you samples of my collections from Central and South America, and shall be glad if you can find the opportunity of working up and publishing the diatoms in them, providing, of course, that they are worth while. Later I shall follow up with the Australian material. By the way, Dr. Ruth Patrick is now working on the diatoms in some collections from North Australia, on which I have just finished a paper on the desmids, by Prescott and myself.

Here's a method for removing the cell contents of desmids and diatoms that you might like to try. I communicated it to Dr. Paul Conger, who says he has found it of value in certain cases, because it uses mild chemicals instead of the strong acids, and thus can be used for delicate forms without damage. It involves a reaction between "Chlorox" (5% sodium hypochlorite) and hydrogen peroxide. To the water containing the algal material add 10% to 20% "Chlorox", allow to stand for several hours or overnight, then add, slowly, the peroxide. A brisk reaction follows, with evolution of oxygen (and chlorine?). If the chromatophores are not completely destroyed at the first trial, the process may be repeated. I have even boiled the solution containing the "Chlorox" before adding the peroxide, which is more effective, without damage to the desmids, and of course your diatoms are much more resistant. Conger has also used the method for disintegrating solid diatomaceous earths, and finds it more effective than the old method using sodium sulphate or photographer's "hypos".

Naturally some experimentation is required to find the proper proportions for your particular work, but it's well worth trying. If you have any luck with it I should be glad to hear about it.

Sincerely yours,



CABLE ADDRESS "RESEARCH"

IN YOUR REPLY PLEASE QUOTE

FILE NO. 5-17-13A-2

NATIONAL RESEARCH COUNCIL
CANADA

DIVISION OF APPLIED BIOLOGY

OTTAWA, 2

July 4, 1952.

Mr. Arthur M. Scott,
2824 Dante Street,
New Orleans 18, Louisiana,
U.S.A.

Dear Mr. Scott:

Thank you very much for your kind comments on my Closterium paper. It is certainly not ^{the} monographic treatment of the genus that is needed, but I do think it shows that the taxonomy of Closterium is a vexing problem.

I am afraid that the nomenclature of Closterium cuspidatum will remain unsettled for some time. It is impossible to settle such questions on a scientific basis. The limits of a species and a genus are artificially created by taxonomists, and of course every man is entitled to his own opinion. Strangely enough, although Irénée-Marie agrees with us in the use of the old name, I do not agree with his line of argument. Argument from authority is hardly acceptable in the scientific world. Although some of the best desmidiologists of the past century may have chosen to retain Bailey's name, other workers with quite as good a reputation transferred the organism to other genera. Irénée-Marie is in error also in stating that Dr. Nellie Carter tacitly approved the use of the name Closterium cuspidatum in Nichols and Ackley's paper on Michigan desmids. Actually that paper merely cites Transeau's record of the species. I must write to Irénée-Marie and ask him for the source of Bailey's original drawing which he reproduces in his last paper.

I am looking forward to seeing your paper on Australian desmids which will no doubt be illustrated just as beautifully as your previous papers.

Yours sincerely,

Elwyn O. Hughes
Elwyn O. Hughes.

EOH/mh

June 26 1952

Dr. Elwyn C. Hughes,
Division of Applied Biology,
National Research Laboratories,
Ottawa. Canada.

Dear Dr. Hughes,

Many thanks for the reprint of your paper on *Glosterium* in Central Canada. This is a valuable paper, and with its excellent drawings will be of great help to me in identifying species of this genus, which to me is a most difficult one.

Prof. Prescott told me some time ago that you were preparing this paper, and that you would probably use Bailey's name for *Glosterium cuspidatum*. Just an hour ago I received a letter from him, from Flathead Lake, Montana, in which he says (in reply to a question of mine) that he definitely prefers the name *Spinoclosterium cuspidatum* (Bail.) Hirano for use in a joint paper on FW Algae from North Australia. Sorry to say that this does not agree with my opinion, which is the same as yours, and Irene-Marie's, and Grönblad's. But he is the senior author and I must defer to him.

While I have not run across many examples of this plant, which is quite rare in my collections, I have probably seen it from more different places than anyone else, namely from Mississippi, Florida, North Australia, Indonesia, and in some Japanese collections sent by Minoru Hirano. All the specimens from these widely separated places look so much alike to me that I cannot see any justification for even a different varietal name for any of them. And I do not think that the addition of the spines to an otherwise typical *Glosterium* is sufficient to justify the creation of a new genus. Prescott holds the opposite opinion, and of course he is right in maintaining his conviction.

Last Fall I assembled some notes on the subject of this plant, with the intention of publishing them. But it does not seem worth while now, in view of Irene-Marie's paper in January 1952, since many of my arguments were quite similar to his. Several months ago I asked a friend in Bogor (Buitenzorg), Java, to try to get for me some collections from the pond (or ponds) in the Botanical Garden in Singapore, where Bernard made his collections, with the idea that if the plant could be found it would enable me to ascertain whether Bernard's plant is the same as the American one. To my surprise I received, a couple of weeks ago, two samples from the pond (or ponds) in Singapore. But after a careful search I have not been able to find *G. cuspidatum*, though there are a good many other desmids present, mostly of the hard water species. It would, of course, have been slightly miraculous to re-find the plant at the first trial after nearly half a century.

With kind regards, sincerely yours,



BOOKSELLERS TO H. M. THE KING

ANDR. FRED. HØST & SØN

ESTABLISHED 1836

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COPENHAGEN, K. January 31st 1950.

DENMARK . BREDGADE 33

Mr. Arthur M. Scott
NEW ORLEANS

Gentleman:

We are obliged for your letter of 25th inst with orders from our catalogue no. 158.

However, we regret to inform you that all the mentioned items already had been sold. (Also the book for Dr. J. Ruzicka).

We will try to get Krieger: Die Desmidiaceen Europas for you and will send you the book if possible.

Concerning the 5 \$ you send us, we will suggest that we put them aside until we get further instructions.

Yours faithfully,

Andr. Fred. Høst & Søn.
Antikvariatet.

A. Høst

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Jan 25 1950

Andr. Fred. Høst & Søn,
35 Bredgade,
Copenhagen, Denmark.

Gentlemen,

Please send the following items from your Botany catalogue No. 158
to the following address:

Dr. Jiri Ruzická,
Zeyerova 1343
Pisek. Czechoslovakia.

No. 1671. Nordstedt, O. De algæ aquæ dulcis et de characeis ex Insulis Sandvicensibus. 1878	Kr. 5.50
No. 1750. Ström, K.M. The phytoplankton of some Norwegian lakes. 1921.	4.00
	2.00
No. 1776. Wille, N. On faroernes ferksvandsalger. 1897.	11.50

Also please send to me at 2824 Dante St., New Orleans, La. the following:

No. 1677a. Nygaard, G. Dansk planteplankton. 1945.	4.00
No. 1652. Li, L.C. A contribution to the Freshwater Algae of Kiangsí. 1938	4.00
No. 1539. Apstein, C. Das Plankton des Gregory-Sees auf Ceylon, 1910.	2.00
No. 1576. Carlson, G.W.F. Süßwasseralgen Aus der Antarktis, Südgeorgien u. den Falkland Inseln. 1913.	6.00

I am very anxious to obtain the following, and perhaps you can get it for me from the publishers Akademische Verlag, Leipzig, Germany:

Kræger, W. Die Desmidiaceen Europas, in Rabenhorsts Kryptogamenflora, XIII/2, Lief. 1. Pages 1-117, Tafeln 97-142.

Note that I want this Lieferung only, since I have the previous ones.

Enclosed is a U.S. \$5.00 bill, which should be worth about kr. 25.00. I will pay any balance there may be upon receipt of your invoice.

Very truly yours,

Jan 6 1951

Dr. Elwyn O. Hughes,
University of Oklahoma,
Norman, Okla.

Dear Dr. Hughes,

Many thanks for your nice letter of Dec. 20th, and your complimentary remarks on my drawings. I have had forty years experience in making engineering drawings, but with few exceptions they have been executed in pencil, and as a rule they involve nothing but straight lines and pencil. My hand is no longer steady enough to draw smooth curves in ink, so after I have drawn my plates in pencil, I have them inked by a young lady, who has acquired the knack of tracing them quite nicely. My engineering experience, however, has taught me the necessity for exactness both in drawing and measurement.

Please do not think of me as an expert. I am simply an amateur, with no knowledge of botany outside of desmids. But I have been collecting and assiduously studying these plants for the last 12 years, and thus have acquired a pretty good knowledge of the desmids of Louisiana, Mississippi, Florida, and the few that are to be found in Alabama. So little work has been done on the desmids of this region, and certain parts of it are so rich, that I am finding many new species and varieties that I am unable to identify with certainty from the small amount of literature that I have been able to accumulate. So I have been very fortunate in obtaining the collaboration of Dr. Prescott, who has checked all my identifications and has determined those that I could not identify.

As regards Microsterias tetraptera, you are in good company in thinking it is very close to M. conferta. Nordstedt was of the same opinion, as you will note from the copy of W. & G. S. West's original description, which I am enclosing in case it is not accessible to you. The Wests based their differentiation on the unequal width of the upper and lower lateral lobes, and the gradual tapering of the polar lobe, in contradistinction to the sudden curvature and "hooked" appearance of the polar lobe in M. conferta var. hemata, also on the small teeth along the margins of the median and polar incisions, and on the absence of spines on the apical margin of the polar lobe. But later discoveries frequently necessitate modifications in the original conception of a desmid. There are, for instance, a smooth variety of M. conferta (var. glabra Presc. & Scott, 1943, p. 71, text fig. 1), and a spiny form of M. conferta var. hemata (fa. spinosa Presc. & Scott, 1943, p. 72, text fig. 2). Personally I think the latter could better be referred to M. tetraptera because of the unequal width of the lateral lobes, and the spines along the primary incisions. But Prescott is the senior author of our papers, and I must defer to his opinions because of his much greater experience.

Borge's original description of Cosmarium scrobiculosum mentions only pits and not granules. But it seems to me that the marginal line of his drawings, both front, top and side views, shows distinct small semicircular elevations between the lines of scrobiculae. If the cell-wall were scrobiculate only, without granules, the margin would not appear like this, or at any rate he should not have drawn it in this manner. Nevertheless, I suppose that we must be guided by his written description, and since this does not mention any granules it is possible that I am mistaken in my assumption that my Florida specimens belong to his species. In that case they would have to be referred to C. panamense Presc.

Sincerely yours,

Dec 14 1950

Dr. Elwyn O. Hughes,
Dept. of Plant Sciences,
University of Oklahoma,
Norman, Okla.

Dear Dr. Hughes,

Many thanks for sending me your paper on *F.W. Algae* of the Maritime Provinces. This is of special interest to me, since I have found a large majority of ^{your} *desmids* from the chilly region of Nova Scotia in the sub-tropical climate of the Gulf Coast and Florida. One of these days I hope that my *desmids* may be published, but it is a very slow process.

Just two weeks ago I sent to Dr. Frank Eggleton the MS of a new paper on *Microsteris* from this region, by Dr. Prescott and myself, describing a number of new varieties and forms, and one new species. One of the new varieties is very close to the form shown in your fig. 9, Pl.1, which you identify as a form of *M. conferta*. I think, however, that your plant should be assigned to *M. tetraptera* and our plant from Louisiana will be described as *M. tetraptera* var. *lobulifera*, var. nov.

Another coincidence is your *M. radiata* var. *gracillima*, Pl.1, Fig.11. We are describing as *M. radiata* var. *elata* var. nov., a plant very similar to yours, but with an even greater inflation or arching of the basal lobes, which reminds of *M. elata* Wellich, also found in Florida.

As regards *Cosmerium panamense* Prescott, and your var. *Smithii* var. nov., both of these have the same type of ornament as *C. scrobiculosum*, and since this rectangular arrangement of pits and granules is not possessed by any other species of *Cosmerium*, it is my personal opinion, perhaps not shared by Prescott, that both his and your plants should be considered as varieties of *C. scrobiculosum*. I have found the specific form in a number of my gatherings, and have studied it attentively trying to ascertain the exact nature of the straight lines intersecting at right

angles, as shown in your drawing. These lines appear very distinctly in certain old semicells, and they also occur in other species, e.g., *C. cosmetum*, *C. novae-terrae*, the form of *C. quadriferum* with 6 central granules, etc., though in these plants the arrangement is hexagonal, not rectangular. I am fairly certain that the lines are not on the outer surface of the cell-wall, and I think they are internal rib-like thickenings of the wall. At other times, however, I suspect that they may be due to refractive effects, caused by the decussate arrangement of the alternating pits and granules. The whole ornament is most puzzling, and very difficult to draw correctly.

I was much interested in your comments on the possible distribution of desmids by migratory birds, which seems to me the only possible explanation of the occurrence of such plants as *C. novae-terrae* Taylor in such widely differing climates as Newfoundland and Florida, and not anywhere in between, so far as is known at present.

Recently I sent to Dr. W. Krieger, in Germany, a number of my collections containing *Cosmaria* peculiar to America. He wanted these for the purpose of making original illustrations for the next installment of his monograph on which he is now working, and which will deal with *Cosmarium*. If you could spare a small quantity of your collection containing specimens of *C. Eloiseanum* var. *serobisuletum* I should be glad to send it to him together with some other samples that I am going to pack up shortly.

I am now working on the MS of a paper on the desmids from South Australia which Mr. Ivan Ophel sent me a couple of years ago, and hope to complete it soon. I am sorry that he was unable to visit New Orleans as he hoped, but perhaps he can do so if he is able to return to this country next year.

With kind regards,

Sincerely yours,



THE UNIVERSITY OF OKLAHOMA

NORMAN · OKLAHOMA

December 20, 1950

Mr. Arthur M. Scott
2824 Dante Street
New Orleans 18, Louisiana

Dear Mr. Scott:

Thank you very much for your interesting comments on my paper. I have long admired the beautiful illustrations in your papers and have hoped that someday we might meet. I have found it much easier to make a good pencil drawing than to prepare a good India Ink line drawing. Without shading it is very difficult to show the "relief" of some of the wall characteristics.

Last Friday I heard from Thompson at Kansas. He wanted to see some of my material, and it took the better part of two days to find the specimens. This leaves me somewhat behind on my other duties. I hope, therefore, that you will give me a few days grace to look for the species you requested. In the meantime I submit the following comments for you to mull over.

With regard to Microsterias conferta fa. in my Plate I, I must defer to you and to Fr. Irene-Marie who has written me as follows:

"The plant that you have placed 'tentatively' under the name of M. conferta fa. is certainly M. tetraptera or one of its varieties. I named one recently under the name var. angulosa. It has not yet been published. I cannot pronounce upon the status of your plant by one drawing only, but there is a great presumption that it is the type of M. tetraptera."

(This would be the first report of M. tetraptera from eastern Canada). When the experts agree, it is well for a non-expert to withhold judgment. However, it would seem to me that my form looks more like Krieger's Plate 126, fig. 3 (M. conferta) than his Plate 127, fig. 1. (M. tetraptera). Krieger states

Mr. Arthur M. Scott
2824 Dante Street
December 20, 1950
Page 2

also that in M. tetraptera the polar lobes are "without spines." On the other hand, Krieger includes Taylor's M. conferta as var. taylorii of M. tetraptera, and Prescott and Scott (1943) show some spinulations on the polar lobes of the latter variety. Evidently my interpretation of M. conferta was something like Taylor's, so I don't feel too badly about it. I would, however, appreciate hearing further from you on the basis for specific assignment.

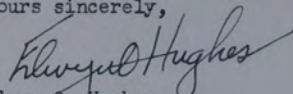
I agree with you that there is some resemblance between my Cosmarium panamense var. smithii and Borge's C. scrobiculosum. There is also a resemblance to C. conspersum. But Borge states that his C. scrobiculosum may be distinguished from C. conspersum by the fact that the former has "Warzen" while the latter has "scrobiculae." In C. panamense there are both "Warzen" (prominent granules) and scrobiculae, the granules in my variety being at the intersections of the very distinct ridges between the scrobiculae. The major difference between my material and Prescott's is in the lateral and apical views. The peculiar arrangement of granules and scrobicles is, as you say, like that of C. cosmetum except that the depress^{ions} between the ridges in the latter are triangular in shape.

I am very glad to hear that Krieger is still planning to bring out a monograph on Cosmarium, and I will be glad to help with what material or drawings I can find. Since Krieger's name happens to come earlier in the alphabet than Scott, he had probably received a copy of my paper before you.

In reference to the distribution of desmids, my main thesis is that their presence or absence from an area is not correlated ~~with~~ the type of macrophytic vegetation. The disjunct ranges of higher plants are disjunct because we know of no possible present-day means of migration between the areas concerned. I do not think that such a situation has been demonstrated for desmids.

You will hear from me again shortly.

Yours sincerely,


Elwyn C. Hughes
Assistant Professor

EOH:ba



THE UNIVERSITY OF OKLAHOMA

NORMAN · OKLAHOMA

January 4, 1951

Mr. Arthur M. Scott
2824 Dante Street
New Orleans 18, Louisiana

Dear Mr. Scott:

When I wrote to you last week, I felt rather pessimistic about finding material of *Cosmarium eloisianum* var. scrobiculatum. It was quite rare in the original collection and to add to my difficulties I found out yesterday that the vial had dried out! However, I added some 6-3-1 and glycerine to the material and am pleased to report that there are still some specimens there. It was, however, necessary to scan several slides before I ran into the variety again. I have transferred one specimen(!) to a temporary slide and am forwarding this together with some of the original collection for you to send to Dr. Krieger.

The ornamentation on this variety is very peculiar and seems to vary from semi-cell to semi-cell. The flattened hub-like prominences with radiating spoke-like ridges seem to be characteristic of the variety. Between the ridges are the polygonal depressions. As I mentioned in the original description, sometimes the arrangement of prominences, ridges, and depressions is quite irregular, in fact, quite confusing. In examining the material today I noticed that the median isthmus granules shown in my figure are quite prominent in lateral view. Also in lateral view one can see a median row of small spines in the lower half of each semi-cell. The latter two characteristics differ from Wolle's original drawing(!!!) and from Prescott's figure (1938).

Since you mention the peculiar ornamentation of *Cosmarium* cosmetum, I thought that you might be interested in seeing my drawing of the species (enclosed). As you can tell from the numerous references on the sheet, I had considerable difficulty in identifying the species. The detail of the ornamentation was worked out before I saw your drawing (Prescott and Scott, 1942). It was the latter illustration that enabled me to name the material. Perhaps this drawing and the enclosed pencil sketches of *Cosmarium panamense* var. smithii and *C. eloisianum* var. scrobiculatum may be of interest to Dr. Krieger.

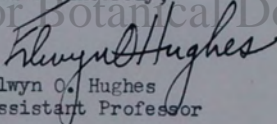
Mr. Arthur M. Scott
January 4, 1951
Page 2

Dr. Krieger may also be interested in my identification of C. sulcatum Nordst. It seems to me that in Nordstedt's original drawing the apical view does not correspond with the face view. It was for this reason that I published a drawing of the species (Plate III, fig. 4). In my specimens each semi-cell had a central protuberance with two adjacent lateral arc-like ridges. Either my material is not C. sulcatum or the original description should be revised.

Under separate cover I am sending a vial containing some of the original collection of C. eloisianum var. scrobiculatum. In addition to this variety (which is rare), the collection contains C. ornatum, C. quadrifarium, C. orthostichum, C. taxichondrum, C. boeckii, and other unidentified Cosmarium species. It is also rather rich in species of a dozen other desmid genera. This collection is labelled "Scum and sludge from edge of pond, about one mile west of Waverly, Halifax County, Nova Scotia, July 13, 1941."

Last week I had a letter from Ivan Ophel who says he is planning to return to the U. S. as soon as he can. I certainly miss him. He is an excellent student and should continue his graduate work.

Yours sincerely,


Elwyn C. Hughes
Assistant Professor

EOH:ba

Enclosure

Jan 28 1951

Dr. Elwyn O. Hughes,
University of Oklahoma,
Norman, Okla.

Dear Dr. Hughes,

The reason that I have not been able to answer your letter of Jan 4th sooner, is that I have been laid up in bed with an attack of bronchitis. The doctor kept me in bed for two weeks, and it is only the last few days that he has allowed me to get up for a few hours each day. So I am way behind with my correspondence.

Your package containing the vial #171 and the slide of C. Eloiseanum var. scrobiculatum arrived safely, but I am sorry to say that in spite of your very careful packing, and my equally careful opening, most of the liquid on the slide had leaked out under the paraffin seal on top of the cover glass. After trying in vain to find the specimen, as a last resort I removed the cover and the paraffin, and then was lucky enough to find the cell. So I melted a small drop of glycerine jelly on a new cover glass, placed it on the remaining liquid, and sealed with melted vaseline. The specimen is now near one edge of the cover glass, but I don't dare to monkey with it any more. I shall send it on to Krieger together with your vial.

I have very little skill at slide-making, and have had bad luck with those containing liquid mounts that I have sent through the mails. A few months ago I sent Prescott a slide containing a most extraordinary teratological specimen of Micrasterias pinnatifida. It was an abnormal semicell with one polar lobe and two basal lobes, two isthmuses, and two normal semicells had grown from the two openings in the base. I don't suppose that such a monstrosity has ever been seen before. But the slide was cracked in the mail, and the contents lost.

The ornamentation on your var. scrobiculatum is certainly peculiar, and I don't recall anything similar in the literature. The nearest thing that I have seen is a single semicell of Cosmerium magnificum Nordst. from Borneo, which has an irregular, vaguely hexagonal, pattern of polygonal depressions in the center of the face, but without the ridges and flattened prominences of your plant.

Your drawings of the ornamentation on C. cosmetum and C. panamense var. Smithii are very good indeed, though in the latter case it seems to me that you have made the depressions a little bit too rectangular. In my specimens from Louisiana and Florida the pits appear to me to be almost perfectly circular. I think that your drawing, therefore, makes the "ridges" more prominent than they really are. The straight lines, or "ridges", do not appear on younger semicells, only on the ~~more~~ older ones, and their appearance varies considerably according to whether the focus is low or high. Sometimes I think they are due to refractive effects, which play funny tricks with such a close pattern of alternating pits and granules.

I shall be writing to Dr. Krieger soon, and shall send him your original drawings, and also the sample. With many thanks, and best wishes,
Sincerely yours,

May 30 1951

Uitgeverij Dr. W. Junk,
Den Haag.
Nederland.

Dear Dr. Junk,

I am submitting herewith for your consideration, for publication in *Hydrobiologia*, two copies of a paper on the Desmidiaceae by Prof. Gerald W. Prescott and myself. Also enclosed are blueprint proof of the three plates to accompany the paper. Of course, if you accept it, I shall send the original ink drawings for reproduction, properly packed to prevent damage.

The desmids described are all from my own collections. My identifications have been checked by Prof. Prescott, who has also determined some of the more puzzling forms, and he has written all of the diagnoses, so you may rely on their correctness.

If you accept the paper, as I hope you will, I should be glad if you would tell me approximately when you think it can be published. This is of some importance, because Dr. Rolf Grönblad is preparing another paper, which will be published in Finland, and which will refer to some of the new species and varieties.

Prof. Prescott wishes to have 200 reprints for his own use, and I wish to have 75, or a total of 275. You may send all of these to me, and I will send you a remittance immediately upon receipt of your invoice. Please send the galley proofs to me for checking.

The reason that I have prepared this paper is that Prof. Prescott's wife suffered a serious accident a couple of months ago, which has placed an extra burden on him, in addition to the many demands of his teaching and research and secretarial work. I am glad to say, however, that she is making good progress toward recovery.

Sincerely yours,

July 22 1951

Dr. G. Huber-Pestalozzi,
61 Engl. Viertel,
Zürich VII.
Switzerland.

Dear Sir,

If you have any more copies available, I should appreciate it very much if you would send me a reprint of your paper "Phytoplankton aus Seen und Stümpfen Javas". If your supply is exhausted, perhaps the Secretary of the Schweizer botanische Gesellschaft could let me have a copy of the Berichte in which your paper appeared, and I should be glad to pay for it.

At the present time I am working on the desmids in a series of collections from Sumatra, Bali, Java and Borneo, and am anxious to obtain all the literature than I can on this region.

Also if you have copies of your papers on South Africa and Corsica I should like to have them.

With many thanks in advance,

Yours sincerely,

Jan 27 1952

Mr. W. J. Harney,
Box 241, P.O. Darwin,
Northern Territory, Australia.

Dear Mr. Harney,

A couple of years ago our mutual friend, Ray Specht, sent me a few vials of freshwater algae that he collected during the Arnhem Land Expedition. This material proved to be extremely interesting, and I have found no less than 240 different species and varieties of desmids in it. These have not been written up, and the paper, with 21 plates of illustrations, will be sent to Mr. Mountford for publication in the official account of the expedition.

I asked Mr. Specht to try and get some more collections for me, and he tried to make arrangements with the Superintendent of the Mission at Oenpelli to get some from the large lagoon there, but he now writes that all the missionaries have resigned owing to a difference of opinion about the issuance of tobacco to the natives. However, he also says that you might be able to make some collections for me, since you live "under a banyan tree" beside a waterlily lagoon, and that you will probably visit the Liverpool River area this year. This is not very far from Oenpelli, where Specht's best desmid collections came from.

Further, since you are collecting waterlily bulbs for Mr. Trickett, you probably would have excellent chances of getting good desmid gatherings, because waters in which waterlilies (*Nymphaea*) grow are usually very favorable for desmids.

I should be very happy indeed to get collections from any part of Australia, but more particularly from the tropical regions of the Northern Territory and Queensland, whose desmid-flora is quite different from that of the temperate zones like South Australia and Tasmania, from which places I also have gatherings made by Mr. Brian Womersley of the University of Adelaide, and Mr. Alan B. Cribb of the Department of Fisheries at Cronulla, N.S.W.

Since you may now know what desmids are, I may say that they are quite invisible without a microscope, but these tiny plants have the most astonishingly intricate shapes and beautiful decorations that it is possible to imagine, which of course is one of the principal reasons for my intense interest in them. Enclosed is a sheet of instructions for collecting them, that I have sent to collectors in many parts of the world. As you will note, there is nothing difficult about collecting or preserving them; but there is one important thing to bear in mind, - in shipping the vials they should be wrapped individually in paper, and packed in a wooden box. I have received several packages from abroad in which some of the vials were broken because they had been packed in cardboard boxes that were not strong enough to stand the long journey and rough handling. The vials used for shipping are similar to those shown in the photo of John Bray on page 751 of the National Geographic Magazine for December 1949. The slip of paper inside the vials bears a brief description of the place and date of the collection, written in pencil of Indian ink. Another method, which I use, is to place a small numbered label on the outside of the vial, and make a written list of the descriptions.

Mr. Specht unfortunately gives no indication of whether I should offer you a remuneration for making collections for me. If you would accept it I should be very glad to pay a reasonable amount for a series of collections from as many different localities as you can visit. If not, perhaps I could reciprocate by

sending you something from this country, periodicals or books for instance.

Whenever you have an opportunity to write, I should be happy to hear from you.

Sincerely yours,

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