



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

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About the Institute

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

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



HOTEL CAPE FEAR

ALGONQUIN HOTEL
CUMBERLAND, MARYLAND
NEW HOWARD HOTEL
BALTIMORE, MARYLAND
HOTEL WOODSTOCK
NEW YORK, N. Y.

WILMINGTON, N. C.

Jan. 3 1955
4:10 A.M.

Dear Friends:

Don and Jerry came home a day early and in all the rush of getting ready to leave I found letter-writing squeezed out. As soon as I get back, either, I shall answer your good letter on a number of points including those big *Microstentis* count it beat all! Just when one begins to feel that the general form of these genera has been exhausted - up pop some more - and you seem to be the man to do the popping. Hope you have had a good Christmas - and a trip some place. How does the new car perform?

If you know how much we enjoy

machines you would know how much
we appreciated the box of the real McCoy.
Thanks very much you two for remembering
our sweet tooth. We took what was
left of them to Buffalo. The day after
Christmas son had to return to his
base and the kids insisted on our going
back with them (via car). So now we are
on the return trip & waiting for an early
morning plane. Was not prepared for col-
lecting but I did get into the boon-doctor
and swamps & have several vials - I don't
know what yet. I shall report back.

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Well, Arthur - the die is cast. Our application
for an NSF 3-year grant is in & we shall
see now whether we can go after the deerside
in a frontal attack. MSC Press said they
would publish putting up $\frac{1}{2}$ the cost of
printing. I shall write more about it later. I
included you, Hannah, Bill Wada and
myself in the proposal. Here's hoping! Best
regards & many thanks to you for everything -
including that interesting lump of stamps -
- Jerry

MICHIGAN STATE COLLEGE
EAST LANSING

Jan. 7, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Home at last- and registration over with. Also over with tonight is the final work on a new laboratory manual we have been writing for General Botany. It has been a time-consuming pain and I am glad that we are through with it at long last. Now perhaps I can get some of the things done which I should have been doing last month.

In your letter of Dec. 12 you stated that you had sent our reprints to Crowse in the Sudan, but you also suggest that I send copies- and if I understand correctly it is only the 1942, 1943, and 1949 papers that I should send. I have copies of these left and will be glad to mail them.

Are you going to be able to describe those weird species of Micrasterias or are they to be done by Grönblad who received the collections from Prowse? Those species are certainly queers and quite attractive too. I envy you the opportunity to browse through the collections from down there which, as you indicate, must be 'loaded.'

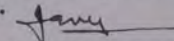
I agree that the Phycological Bulletin should print a sketch of Krieger and his works and I don't see why Wille could not handle it out. I have written to him about it. Will he send you the manuscript, or do you have it already? You mentioned the length so probably you now have it.

Have the new Oenpelli samples arrived and what are they like? I have not yet finished my report to the army man in west Australia on the samples he sent me- another job that was postponed. But I shall soon and send you a portion of the samples that were good for desmids.

I do wish that there were some practical way that we could get Krieger's work on Cosmarium into print. You are quite right- I would not think of attempting to do it in German. In connection with our monographic study of desmids it might be possible to put it in shape for publication in English- unless we had a good translator. If and when we do a treatment of N. A. desmids it would certainly be in order to have Krieger's manuscript- either as a manuscript or as a publication first. It would lessen the job for us very, very much.

When you were here I did not get around to show you the slide mounts of Dr. Kincaid- from the Pacific coast (Calif. to Alaska). I have gone over only a few of them- and I think they will be very helpful in a summary of N. A. desmids.

I do hope you and Edith are well. What did you do over Christmas? Did you get a trip to Florida- or where? If I should (remotely possible) go to Barro Colorado next summer- I am thinking of having Tess come down for a week or so to stay at the laboratory until our field work starts. It would be great if you and Edith could go at the same time for a short period and we could get in some good desmid collecting trips. Give our regards to Edith- and to yourself.


C. W. Prescott

Jan 9 1955

Dear Jerry,

Many thanks for the copy of your latest book, "How to know the FW Algae". I am sure that it will be of great value to beginners in the science of phycology, and I wish that something like it had been available when I first became interested, around 1920. In spite of its small size I can now understand your statement that it involved a lot of work in the preparation. How in the world did you ever manage to work out a continuous key for 450 items?

For the Christmas holidays Edith and I went to Florida, as usual, in the new car, a Chevy Belair. This little car performed all right, but I must confess that I cannot get used to its small size, nor the manual gearshift, after the big Chrysler Imperial. I bought it because I felt no longer able to put out the money for a big car, and I wanted one that would be more economical to operate; but neither Edith nor I like it, and I shall probably get rid of it soon.

We drove all the way down the peninsula, almost to Cape Sable, but could not quite get to the coast because a bridge was under repair. However, we did reach Coot Bay, which is really a small salt-water lake surrounded by mangrove swamps, and connecting with the larger Whitewater Bay on the southwest coast. We took a trip in a sightseeing boat, operated privately under the supervision of the Everglades National Park, and accompanied by one of the park naturalists. It was expected that we could see a lot of birdlife, herons, ibises, spoonbills, etc., but for some unknown reason there were few of them around. Of course there are no desmids in the immediate vicinity, but rather to my surprise I got plenty in the roadside ditches just 5 miles northeast of Coot Bay, although the ditch was lined on both sides with small mangrove bushes; in fact there were a few desmids in material stripped from a mangrove root. The water was not perceptibly salt to the taste, so evidently the mangrove does not necessarily require salt water, as I had previously thought. I got several collections in the Everglades, and a total of 30 from south Florida, many of them being very rich in desmids. I suppose there must be a couple of hundred species all told, but a preliminary examination has revealed no new species, and only two or three varieties that I had not seen before. A more thorough study may show a few more novelties, but the results tend to show, once more, that I have now collected a very large percentage of the desmids of southeastern USA.

Glad to hear that you have applied for the NSF grant, and hope most sincerely that it will be granted. I consider it a very high compliment to be included among your collaborators, and I am ready to do my share of the work, whatever you may allot to me.

With best regards,

Sincerely,

Jan 27 1955

Dear Jerry,

That invitation to join you at Barro Colorado sounds good. There's nothing I should like better, provided you will make it in winter instead of summer. This place is hot enough, without travelling 1000 miles to a hotter one. Anyway, a summer trip is out of the question for this year, because Edith and I are going to Europe on our postponed visit, if my gall bladder does not start acting up, and if I don't break a leg or something else. We shall leave in May, and the program will be the same as contemplated for last year; to England first, where I shall leave Edith with my sisters; then I shall go to Finland and spend two or three weeks with Grönblad; afterwards to Sweden to see Teiling, and back to England. Then we shall spend some time in France and possibly see a little of some other countries. Of course I expect to meet other phycologists over there, Kallio, Skuja, Bourrelly, and perhaps Van Cye and Heimanns.

I am still working on that marvellous collection from the Sudan, and now have about 150 desmids, half of them new to me, and perhaps a quarter of them new to science. Rather strangely, a considerable number are illustrated in Fritsch & Rich's South African papers; I should not have expected that, for the Sudan habitat is about 8° north of the equator. Grönblad has very kindly invited me to collaborate with him in the study, and the collector, Prowse, will participate in the joint authorship, for he turns out to be a botanist and has some knowledge of Fw algae; I don't know how much. Grönblad ~~sent his drawings, but not the material~~ In having a material thing with him, but the material is exasperating to work with; many of the desmids are represented by only 1 or 2 or 3 specimens, and as you know, it is usually not possible to get all the necessary information from so few, and particularly when you are trying to draw a completely unknown desmid with a very complicated structure. It is a wonderfully broadening experience for me, for this is almost the first African material that I have seen; the only other African stuff that I have is a couple of collections from Lake Victoria that Krieger sent me, but they are rather poor in desmids.

The shipment from Compelli arrived a few days ago, but one of the three vials was missing, because the cork or stopper has come out of the bamboo tube in which they were shipped. Somewhere along the line the Post Office had glued a piece of strong paper over the end of the bamboo. And of course the missing vial was probably the most interesting one, from a new habitat, while the other two are from the same locations as some of those collected by Ray Specht. There may be something different in them because they were taken at a different season; so far the only novelty I have seen is a 5-radiate version of *Desmidiium aptogonum*, but an extended search will no doubt bring others to light.

Grönblad sent his obituary of Krieger to me for correction of his English; I made some changes and returned it to him, thinking that he would probably want to look it over again. No doubt he will send it direct to you. It covers about 2½ pages of double-spaced typescript, with another 1½ pages for the bibliography, which includes a few of Krieger's works that I had not previously heard of.

Krieger's 'manuscript' of his *Cosmarium* section does not exist. What he left are his notes and descriptions in card-index form, and his drawings; presumably complete since he told me a couple of years ago that they were almost finished. But what these notes and drawings look like is another matter. I now have on hand some of K.'s notes and drawings covering a small lot of stuff from Peru that I sent him a couple of years

ago, in order that he might include it with some Chilean material that he told me he was working up. After his death Dr. Kurt Krieger sent me his father's notes and sketches and I am going to assemble them for publication. The descriptions are complete enough if you can read them; they are handwritten on small pieces of paper, about $2\frac{1}{2}$ " x 4", the paper cut from old printed forms and examination papers, no doubt reflecting the poor economic conditions in Soviet Germany. They are in German, of course, partly in pencil, partly in ink; some written with a ball-point pen that was not working very well. Some of the writing is in English script, some in German script, written very small, and very difficult to read. I had one h--- of a time deciphering it, and there and there a few words that I simply could not make out at all. So I wrote a rough draft of the paper and sent it, together with the original notes and sketches, to Grønblad and asked him to check it. He has just returned it with the missing words supplied, and numerous small corrections in my German spelling. Krieger's sketches are rather rough, and of course intended only for his own elaboration when he drew the finished plates, and I am going to have some trouble in enlarging them to my scale.

So if K.'s notes and drawings for the Cosmarium section of his Monograph are anything like what I have described, whoever undertakes to assemble them for publication is going to have a very difficult time in the mere deciphering and drawing, to say nothing of the many other problems in this genus. I would not want the job, even if I were competent to undertake it.

Many thanks for sending the reprints to Prowse. Please don't forget to send me some of that West-Australian stuff; I shall be very much interested in seeing how the desmids compare with those from North and South Australia, Queensland, and Tasmania.

With best regards from Edith and myself to you and Tess,

Sincerely,

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P.S. The enclosed piece of brown paper is something of a curiosity; perhaps you already know of it. It is a natural paper, formed by dense growths of filamentous algae left festooned and draped over dead cotton plants in an overflowed field after the water slowly subsided and evaporated. The phenomenon occurred in 1937, so the paper is 17 years old; it was given to me by a friend who lives near Jonesville, La., where the flood took place over an area measured in square miles; he says there were many acres of the paper, which was at first a greyish white, and later turned brown. C. F. Moreland, of LSU, described it in *Am. J. Bot.*, 24:9, 592-593, Nov. 1937, and according to him the greatly preponderant alga is *Tribonema*, with small quantities of *Oedogonium* and *Spirogyra*. Put it under the microscope and see how much like lens paper it is. You may keep the sample.

Feb 4 1955

Dear Jerry,

Grönblad returned to me his obituary notice of Dr. Krieger, after making the corrections that I suggested. But it was still not in good shape for the printer, so I have rewritten it and enclose 2 copies herewith. Will you please send it to Philip Wollé, together with the photo of Dr. Krieger that I sent you? Grönblad said nothing about reprints, but I suggest that you ask Wollé to run off 50 extra copies of the Bulletin containing the obituary, sending 25 to Grönblad and 25 to me, also you can order some for yourself if you want any. I shall be glad to pay the cost.

Enclosed is a dried specimen of *Hydrilla verticillata* from Java, sent by Sachlan, with an illustration of the plant. It looks to me rather like *Anacharis*.

Under separate cover I am sending specimens of some aquatics that I got in the Everglades National Park in south Florida, which you might like to compare with similar ones that grow in your part of the country. If you can identify them without too much trouble I should be glad to know what they are.

That's all for the present.

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

Feb. 15, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

How are you coming with new and rare desmids? Those certainly are some beauties that you turned up last. I suppose it will be some time before a paper on them makes its appearance.

The specimen you inclosed certainly must be an *Elodea*- a form of *canadensis*- but I have never seen *Hydrilla* and we have no specimen of it in the herbarium. Nor do I have a flora of tropical botany in which *Hydrilla* is described. I shall try to check it out in the library some time. It is commonly called "Water Soldier" and there is nothing about this plant to suggest that. I cannot help but think the illustration is of an *Elodea* also- but I shall find out as soon as I can get over to the library. Just now I thought I would report on the vials of aquatic plants which arrived in good shape.

No. 40. I found fragments of a *Chara* sp. (sterile). Along with this I note an interesting hodge-podge of desmids, mostly *Mosmarium* but some nice *Euastrum*. Did not go through the slides in detail but seems that there are enough there to warrant further looking.

No. 37. An aquatic moss. I think it is a species of *Fontinalis*. Shall recheck this and let you know. It is not fruiting so have only stem and leaves to go on- and what I know about sterile mosses is a shame.

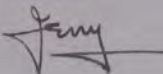
No. 24. Is a beautiful *Eatophora Oerstedii*. Had never seen a plant before. You must have been out quite far into saline waters here for this is a marine alga. Certainly is a fine little plant and I am glad to have seen it. Had me puzzled for a couple of minutes because I thought it was going to be a *Nitella*. May I keep these specimens?

Did Teiling send you his paper on *Actinotaenium*? I have not had time to read it critically, but he seems to have made some reasonable recombinations. At least he gives us a pigeon hole for some forms which do not seem to fit snugly in the ones where they have been placed formerly. What do you think of his idea?

We are trying to find a new "publishing house" for the Bulletin. At least for the present Silva will have it published by a firm in Urbana. I sent him Gronblad's obituary on Krieger together with photograph for the next number of the bulletin, if it can be used. It is a very good paper and gives us some information on Dr. Krieger which we should have.

Hope you and Edith are well. Please do take care of yourselves so that you can get off to Europe without any delay. How I envy you! It is a real dream-trip. Must get to work so shall sign off with this brief note for now. Until later-

Kind regards to you both-



Mch 24 1955

Dear Jerry,

Thanks for the identifications of the plants that I sent. The case of Batophora Oerstedii is curious, for it occurred in fresh water. On the chance that it might be of interest to him I sent some to Dr. Taylor, with an account of the conditions in which I found it. This was in a roadside ditch in the Everglades Natl. Park, some 15 miles from the Gulf of Mexico, growing very abundantly. The south end of this ditch connects with salt water, and the road is cut through a dense mangrove forest with trees 25 or 30' high. Driving northeast along the road, the mangroves gradually decrease in size, dwindle to mere bushes, which finally disappear entirely. This is the transition zone from saline to the freshwater of the Everglades swamp, and the location of the transition zone varies with the level of the Glades water, which depends on such factors as rainfall, evaporation, wind, etc. So the Batophora must have adapted to life in fresh or weakly brackish water. I placed a drop of the water on my tongue and could detect no salty taste; this is confirmed by the presence of a few specimens of Cosm. pyramidatum in the algal mixture. A couple of miles further north I obtained some good desmid hauls from the same ditch, one of which you saw. The desmids are all common south Florida species; the most striking is E. hypochonetrum fa. decoratum, described in our 1952 paper.

Teiling wrote me that he had spent 2½ years of almost daily work on his Actinotaenium paper, and I can easily understand this. But I cannot so easily understand his arguments, because I don't know enough about taxonomy. I wrote asking him about certain points, such as the difference between 'punctae' and 'pores', and just received his reply this morning, but it doesn't help much to clear the matter up. I also asked why he confined his genus to the smooth-walled species, and excluded those with sculptured walls; here is his reply: "I have confined Actinotaenium to the smooth-walled species, partly according to the type species, Act. curtum, but above all because of the fact that I am convinced that the granulate baculiform species belong to a quite different line of evolution, deriving from cosmarioid ancestors. I have studied these species penetratingly; some of them are quite circular at the vertex, but there occur also oval ones (C. pseudoamoenum) even with dicentric chloroplast. Most of them have a distinct, sometimes narrow and deep isthmus furrow, a circumstance that at once proves their belonging to Anguloraditeae. The elaborate cell-wall indicates the same. I am sure that they are pseudo-omiradiate and their similarity to Actinotaenium is a case of convergency, a phenomenon that is fairly common just at desmids of this very simple shape; the baculiform shape is a manner found by many originally different desmid genera".

To tell the truth, I don't see just what is gained by splitting off just one section of Cosmarium, if he does not intend to proceed any further with the other species. Somebody else may do it in the future, but he probably will not agree with Teiling's assignments in all cases. However, there is one way that the paper will be of great help to me: it is a very convenient assemblage of a lot of these rather obscure cylindrical desmids, with acute critical remarks on them, that will be helpful in their identification.

I am sure that Teiling would appreciate some comments from you, no matter whether you agree with him or not. Here are some further remarks of his: "Of course my arrangement of the many species, varieties and formae can be discussed, in several cases it is a matter of taste, and many desmids are very badly described, I am quite aware of it, and I had to choose between several alternatives, but I could not publish more than the one that seemed to me the most probable. When I made this paper, I hoped

that it could incite the displeased desmidiologists to complete or correct our knowledge in order to prove that I am wrong; in this way the truth will come to light, no matter that I am blamed, nevertheless I was the "provoker".

Enclosed is the Ms. of the paper on St. Wildemani that I discussed with you, together with my original sketches, and some poor prints of my pencilled plates, which have been sent away for inking. I would like you to look over the paper and make any changes that you think would improve it, and check one statement that I have circled in pencil. If you can get it back to me within the next two weeks I would appreciate it, so that I can type the finished copy and send everything off to Java before we leave for Europe, which will be May 1st. Sachlan will have to handle it with the editor of 'Reinwardtia' and also check the proof. I have asked Hannah to do the two Latin diagnoses.

I am sending you portions of the two new collections from N. Australia, which you will please place together with the others. Also a small quantity of material from Lake Ambadi, Sudan, which is for your enjoyment. The original Ambadi collection was a plankton haul, but the minute quantity that I received was entirely used up in my examination. This stuff is centrifuged from 'water-weeds' and therefore contains a larger proportion of small desmids, while the large and bizarre forms of Micrasterias, etc., are much scarcer. Nevertheless you should be able to find some of them, and you will hardly believe your eyes when you see them.

Our European trip is all arranged for, lacking only the final hotel confirmations, which should be coming any day now. After spending a month in England I shall go by air to Stockholm to spend a few days with Teiling, then to Finland to spend three weeks with Grönblad. Then I shall return to England to pick up Edith who will stay with my sisters, and then both of us go on one of the standardized European conducted tours, taking in Belgium, Holland, Switzerland, Italy and France. In Paris we shall stay for a week, and then fly direct to New York.

With best regards to Tess and yourself,

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

April 9, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Friend Scott:

Was very glad to have your good letter and the interesting inclosures. I have been puzzling over and admiring your drawings and rechecking them with the iconograph. The paper is in admirable shape and shows a great deal of critical thought- more on your part than mine and I have done so little that I am having conscience pangs. The problem discussed, especially in connection with *St. Wildemanii* var. *subastiferum* is one for the Pennsylvania lawyers. Here there is a point- and I keep coming up with it every time I follow through the history of the plant. If I interpret the Inter. rules correctly, a varietal name such as this must use the oldest varietal name when it is transferred from one species to another. Hence- if I am correct, we should use the var. name *majus* rather than *subastiferum*. Of course the name *subastiferum* Schmidle is reduced to synonymy (and does not exist) inasmuch as it is preempted by the West's *subastiferum*- and I think the rule applies here too- that a synonym cannot be used again- at least on or at the same level. What do you think. I have tried to see what it all means- but I do think we shall have to use var. *majus*, inappropriate though it may be.

I am ever so grateful to you for sending the most interesting collections. Do I recall that Gronblad is doing the Sudan material- or are you. Those are delightful plants and I envy you. What a very trim mailing box- some you had made up down there of course. They are ideal; must be rather expensive, however.

The delay in Australia is getting no shorter fast--just the way of things when government agencies become involved. There is hope, though, I see by Mountford's letter. When should I put those misc. algae into plates. Were we not waiting for some additional samples to incorporate? I have forgotten.

I wrote Teiling a short time ago. Yes, I can understand that he must have worked long and hard to digest all that literature. In general, I think he has made a very helpful contribution- but as I wrote him- in such a treatment one is bound to bring up other questions when answering questions. I think the notion he has is sound- but I think there are still many fringe plants that will make for trouble. If we could just take the remainder of the genus now and work it over the same way, we might come up with about three or four 'races' that very properly might make for as many genera. These, I would interpret, as developing along as many lines from a common ancestral form, assuming that the *Cosmarium* complex has a common ancestor. So far, there is more evidence for parallel evolution than for convergent evolution from different ancestors (I think). Teiling gets us into trouble though when he differentiates on the basis of 'pores'. Especially inasmuch as various workers have not been discriminating in their descriptions of species- or maybe not observant enough. At least his paper will be very stimulating and I daresay his hopes will be realized in this connection.

Have just recently come back from a week at Woods Hole and at Farlow doing library work. Am trying to work up the desmid genera for the International Index. Some of those are frightful and the job is worse and bigger than I thought it was. I am hampered by lack of literature all the time- and now that I am back I still find many blank spots that are calling for another trip. I envy the older European workers who seem to have all the old classical material right at their finger tips. The worst angle of the problem is

MICHIGAN STATE COLLEGE
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it is difficult to determine the type species for each genus. Had quite an interesting time of it as it turned out. We left here in a blizzard. Planes beyond Buffalo were grounded so instead of going on to Boston they sent us around by way of New York. By the time we got to New York the field was 'closed in' and we had to circle for two rather anxious hours before the pilot could get down. Of course we had missed all connections to Boston by that time so we had to wait over night in New York. Took the plane the next morning for Boston via Nantucket and Hyannis (where we were to get off). We had no transportation from Hyannis to Woods Hole so I got smart and decided that we would deplane at Nantucket and take the next boat to the mainland- landing at Woods Hole with no transportation problem to solve. When we stepped off the plane we were nearly blown flat. A high wind had been blowing all the time but we did not know it except that the pilot did cut out one of the stops he was supposed to make. By the time the plane had left we discovered that because of the storm no more boats would leave. We stalled around the island and went down to take the evening plane to Hyannis- but it was too windy and the plane went right on by. So we stayed overnight and all the next day before a plane finally came in. So at last we got to the mainland and went down to Woods Hole with a stranded Harvard law school prof., his boy and two dogs- all of whom had gone to Nantucket for a Sunday of bicycling. Thus we arrived two days late and had to work hard to make up time- although we actually did not make up much time.

Well- here is hoping the best for you in your plans to leave May 1. My spirit goes with you for I know how interesting and helpful it will be for both you and Edith. Please give my regards to the physiologists you meet.

My student, John Schindler, has decided to go to the University of Ia. to work on an algal survey as part of the Conservation program- so you probably will see him. Ia. is not strong in phycology but Flint is a good man and is a good algologist too, even though his special field is physiology.

I shall try to write again before you go. Just now I am a bachelor. Tess went down to visit with the youngsters and is coming back to Chicago with them plus trailer. Don just received his transfer orders so they are moving to Great Lakes.

Best regards till later- and best wishes to Edith.

May I keep the photos for a while?
I would like to check 2 or 3 of them

April 12 1955

Dear Jerry,

I hope you can get the St. Wildenani manuscript back to me before the 20th of this month. I am particularly anxious to get it off to Java before we leave, which will be May 2nd. Sachlan is getting worried about the delay in results of his collections, and I cannot blame him. This paper should have been finished some months ago, and would have been if it had not been for that truly extraordinary Sudan material, which had me so fascinated that I was unable to let go of it. There are about 200 different desmids in it; many new species and vars., and a lot of others that are known only from one illustration in the works of Schmidle, West & West, and Fritsch & Rich.

Enclosed are prints of the finished plates of St. Wildenani, for your records.

If there is anything I can do for you in Europe, please let me know.
Best regards to you and Tess from Edith and myself.

Sincerely,

April 21, 1955

Dear Arthur:

It was good to talk to you last evening, but I am sorry to learn that the manuscript had not arrived. It was sent air mail (I think) and should have been there long ago. Perhaps I did not put on enough postage which delayed it somewhere. Please let me know if it has not arrived by now and I shall start a 'chaser.' The manuscript seems to me to be in excellent shape and there is only the problem of changing the one varietal name that needs attention. I hope I have interpreted the rules correctly in this connection.

The book about which you spoke was not the one that I mentioned over the phone. The one that Tess received was an award- seem she took a prize on something or other. She will be glad, I know, to receive the one you are sending. She has not been back long from visiting with Don and Gerry. She went down there when I went east- and they talked her into riding back with them on trailer to Great Lakes where Don is stationed now. It took longer than they thought.

I am thinking of you (rather enviously I am afraid) as you prepare for the trip to Europe. My best wishes go with you- both for your pleasure and for your professional interests. It will be fine to meet the phycologists there. Please remember me to all who may remember me- Telling, Grönblad. Have just had a good letter from Telling in response to the one I wrote him. I gave him encouragement in his idea. I can see many problems- but all in all I agree with his basic principle and I do think that with some additional, careful study and sifting, a rather clear-cut case may be made for Actinotaenium. I, like you, will be glad to have a separate pigeon hole to toss the forms that just do not seem to be good Cosmaria. Now the question comes up- shall we (someone) attempt to sort out the Euastrum-like Cosmaria- or shall we just leave them lay!

How much time do you think you will have for browsing in old libraries and second-hand book stores. Are you going to try it at all? If so you very likely will be soon loaded down with items to the extent that your baggage cannot stand extras. But if you should see things of the old classical type which you do not purchase yourself, I would most certainly be glad to have them mailed to me (if that were not too much trouble). I do have this microfilm copy of Krieger's Desmidiaceae- but I would be glad to have a copy. I am afraid this book is all out of print and the stock exhausted, however. I need volume V of West & West & Carter also. I have most of Borges papers- Grönblad- Nordstedt, Raciborski- but there are so many papers that I do not have that almost anything that deals with freshwater algae would be useful. I shall send you some money if you wish to consider the possibility of picking up things at all. You and Edith are going to have quite an extended trip and will cover quite a bit of territory. Please find out what is happening to Revue Algologique, if you can- how well established the journal is.

Just had a card from Sachland & Desikachery. The latter must be visiting in Indonesia. I must send Sachaln some things. Best regards to you both.

G. W. Prescott

L.P.P.

The government requires
the full title which
changed your name
to Michigan State
University.

April 23 1955

Dear Jerry,

The manuscript arrived yesterday, to my great relief. As you surmised there were not quite enough stamps on the envelope, which may have caused the delay. I am rewriting it in final shape, incorporating the changes you suggested, and will send you a copy before I leave. I shall send it by airmail to Sachlan and ask him to handle with the editor of *Reinwardtia*, because he said the present editor, Dr. W. A. Donk, will probably retire this year and return to Holland. Also I shall ask him to get in touch with you if any question regarding the paper arises during my absence.

I have changed the varietal name to var. major instead of var. subtrifurcatum, to comply with the Internat. Rules, though I don't like it. As regards the spelling Wildemani versus Wildenani, the former is the original spelling, which must be retained "except in the case of a typographical error, or of a clearly unintentional orthographic error". This is not a typographical error, nor is it a clearly unintentional error; the spelling may have been quite permissible in 1902. There are other examples, of which the only one I can recall offhand is Cosm. Regnesi. In any event, the correction of such errors is merely permissive, not mandatory. Fritsch & Rich 1937 retained the original form, while Krieger 1933 changed it to 'ii'. When such authorities differ the best thing to do is play safe, as I have done, and leave it alone.

There is nothing you need do with the North Australian samples at present except to file them. At some future date I shall work them up for the decade, together with a number of other samples from various parts of Australia, and when that time comes you can do the miscellaneous algae.

The paper on the Sudan material will be under the joint authorship of Grönblad, Prowse & Scott, but since that would be too much of a mouthful to apply to the many new taxa, I have suggested that Grönblad's name alone be attached to them. There is a total of about 200 taxa, perhaps a few more, in this one lake!

The photos I sent are yours for keeps; I have plenty more of them. Recently I bought an enlarger and am trying to do my own developing and printing, and spoiling plenty of film and paper.

Last week I met for the first time Dr. Lewis Flint, at a joint meeting of the Louisiana and the New Orleans Academies of Science, at Loyola Univ. He gave a short talk on "Green sands in the Gulf" (of Mexico), concerning a marine filamentous alga that causes a green coloration on the sand just below water line on certain low off-shore islands that are frequented by birds, and is nourished, apparently, by the nitrogenous matter washed down from the birds' excreta. I talked with him for a few minutes, and understood him to say that you might come down here this summer, but apparently I misunderstood him, since you say that John Schindler is coming. If John is coming to LSU only for the summer course I shall miss him, for we don't get back until Sept 1, but if he is staying for the Fall and Winter, please ask him to get in touch with me and I shall be delighted to show him my layout, and to take him to some of my favorite hunting grounds.

Had a letter today from Grönblad in which he says that part 2 of Kossinskaja's Russian Desmid-flora, a big volume of 800 pages, is available from the Akademiska Bokhandeln, Helsingfors, at the low price of 700 finnmaks, which is a little more than \$3.00, and that the supply may be exhausted quickly. You can send your own personal check for \$4.00 which would include the postage, and they would be glad to get the dollars.

I wish that other books were as cheap, even though all I shall be able to do with the Russian one is to look at the pretty pictures. Have just paid \$6.50 for Bourrelly & Manguin's "Algues d'eau douce de la Guadeloupe", with comparatively few desmids in it. I returned Herman Silva's book to the Univ. of Tennessee Press and asked for my money back; it is quite useless to me. It's a pity that the Head of his botany department did not counsel him against rushing into print with this; anyone with half an eye can see that his drawings are wretched. He writes about the pores in the cell-wall of *Cos. pyramidatum* but shows them clearly as granules, - very misleading to a beginner. His *C. 'biretum'* is *C. porrectum*, and there are other wrong or very doubtful identifications. Did you notice *St. arcticocon* with 8 plus 5 processes? A nice new variety if it really exists!

Yes, I expect to do some browsing in the bookstores in London and Paris, and anywhere else where I have time, and shall look out for anything that I think would interest you. Krieger's Monograph is out of print, though there is a possibility that it may be reprinted. I have an extra copy of Part 5, *Micrasterias*, that I will sell for \$5.00, just what it cost me, if you know anyone who wants it. West & West's Monograph is unobtainable, except by a miracle. Some years ago I wrote the Secretary of the Ray Society in London, asking if it would be possible to circularize the membership to try and find someone who would be willing to part with it for a good price. He replied that it had already been tried, with no result. In the English magazine "The Microscope", somebody offered 100 pounds for a set, and in England that's a good deal more than \$280 over here. The index that you so kindly copied for me has already saved me a lot of time in searching, even though I am fairly familiar with the location in the five volumes of most of the species.

and elsewhere

My addresses in England will be:

May 12, 13, 14. Mount Royal Hotel, Marble Arch, London, W.C.1.

May 25, 26, 27, 28 " " " " " " " " " " " "

May 29 - June 19, % Mrs. E. M. Nixon, "Greenhow", Roundham Gdns., Paignton, S.Devon.

June 25-July 14, % Rolf Grönblad, Centralgatan 86, Karis, Finland.

Aug 18-27, Hotel de Paris, 8 Blvd. de la Madeleine, Paris.

On the intervening dates we shall be on the move, and it will hardly be possible for us to receive any mail.

This morning we had a nice long letter from Tess, with a copy of her prize-winning sonnet and a copy of the magazine with Wind-shift Line. She asked us to criticize them, but that is far beyond our power for we have not the slightest idea of the criteria for judging. All we can say is that we liked them very much, and I particularly admired the skillful use of such unusual words as permafrost, tundra mats, sphagnum, pitcher-plant and sun-dews. Surely this must be the first time that most of them have appeared in poetry. Please give her our congratulations, and ask her, please, to make a copy of her poem on Finland and send it to me % Mrs. Nixon in Paignton, so that I can take it to Grönblad, who will be glad to have it, I am sure.

Tess also told us that there is a good chance of your becoming grandparents later this year. That's exciting news, and Edith and I wish the young folks the best of luck.

Edith won't have time to do any writing, for this is our last week at home, and she is very busy straightening up the house, getting our clothes ready, &c, &c, &c. So we send our best regards and good wishes to both of you, and will send you some cards from Europe.

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

April 26, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

It was good of you to write at a time when you have so many irons to take up your attention. I appreciate getting the news items and the information on certain points.

I do not have my 'rule book' handy, but my thought was (and is) that there is a rule regarding the use of the double 'i' for the spelling of species names created on the base of proper names. It is about the same sort of rule that permits the changing of the endings of a latin name to bring agreement in case (a changed to um or vice versa) and I had not thought of it as actually changing the original spelling. But in any case it need not be worried about or considered now because there is a sound basis (reason) for using Wildemani.

That Sudan material must be amazing and very intriguing. I think I shall take off for Africa. Seriously- what a wonderful place to go for phyco-logical work- a whole continent scarcely touched. Mentioning going places, I am planning on going to Florida this summer for another 'go' in some of the sections which apparently have not been worked over. Actually you have made very representative collections from Florida and I suppose I should be satisfied- but I like that country and because I am not going to be teaching this summer I thought Tess and I would use the free time for going to a few places. We probably shall 'wind up' out in Montana.

Yes, John Schindler will be in Louisiana all next year and probably for 2 years so no doubt you two will have a chance to meet. He is going to undertake an algal survey of a certain area for the wildlife or conservation people as I understand it.

I know that Krieger's works and the West's are completely out of print. My only hope is to find copies kicking about in a used book store. Actually reprints and all the old papers on algae (freshwater) are of greater value now than books on algae. I sent for the Kossinskaja work right away- and I appreciate your telling me about it. I had not received any announcement.

Yes, I am afraid that Herman Forest's book needs much attention. I had to write a review of it and just could not find many complimentary things to say about it- which is embarrassing because he is one of my graduate students and the book was based on his thesis which, by the way, is ever so much better than the book that he created out of it. I pointed out the Cosmarium pyramidatum business and some other jonners just as samples of why the book is unreliable.

Glad to have your addresses. We shall keep in touch with you. With best regards to you and Edith and the best of everything to you for your trip.

Jerry

MICHIGAN STATE COLLEGE
EAST LANSING

May 3, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur and Edith:

By now you are well-settled and enjoying England, I know. We thought about you on May Day- and hoisted a toast mentally to your trip. I can almost imagine what a lot of fun it must be and how interesting to both of you to get to England again. I hope the trip over was quite enjoyable and restful. You had a forced vacation from doing all the every-day things you are accustomed to doing and that in itself can be a vacation.

Received your card, Arthur, about the Sachlan samples. I hope you have a chance to scratch through the samples one more time to check on the *Ichthyocerus imitator*. It would not have to be there- but would seem certainly very likely to be. In any case something must be done with it- but you will have to simply defer the whole matter until fall. You have enough information to make a good description in any case- and the desmidologist should know about it through the printed page.

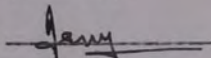
Just received a paper by Vaas and Sachlan (limnological). You probably did too- or will. They list some desmids and illustrate the zygospore of *Cosmarium striolatum* (Naeg.) Reb. - a species which has very few records of any kind.

Tess bore up very well under the strain of receiving two 1st prizes for her poetry. There was a meeting over at Flint of the State Society and I went along as bus driver and sat in on some of the meeting. We are very pleased with the volume from Finland.

I shall keep in touch with Starr on his success in growing the living specimens Sachlan sent. He has developed some very good techniques apparently.

With kind regards to both of you. Give my regards to the British phycologists you meet.

Cordially,



G. W. Prescott

University of Montana Biol. Sta.
Big Fork, Montana

July 14 - 1955

Dear Arthur:

Was very glad to receive your card and to know that you and Edith were well along on your trip. I hope that this reaches you in Finland with Dr. Grönblad. If it does please give him my best wishes. I envy you being able to visit with him and to work with him for a while. Maybe one day I can make a trip to Denmark-Sweden-Finland.

I think I have not told you that in May we received notice that our application for an NSF grant had been awarded. Of course I was very grateful for this gives us an opportunity to drive headlong into North American deserts - although the amount of the grant was cut. The Director called and asked that I delete the publication cost item and suggested that I reapply for this amount after our work is finished - or nearly so - and when we are about to get the manuscript ready. This is of course a fair request because otherwise it would keep a few thousand dollars tied up for 3 years and out of circulation for other grant applicants. Only trouble is anything can happen and there is no assurance that the necessary amt. will be forthcoming. The first task is to get the literature under control and the iconograph more nearly completed. If you have an opportunity,

please check with Dr. Gjinblad and others on the quality and value of Czech & Russian papers which I have missed. There is a long list of Czech papers in journals I have never seen and I have not been able to learn whether they contain descriptions of new species. Anything you can do to collect reprints and papers or bulletins will be much appreciated. I'll be glad to send you some money. I guess I shall have to take some time off and go to the library of Congress for a month and sit down with some of these literature problems.

Had a good letter from Sackler and some photomicrographs of the new genus. I believe he said Teeling had it in culture now. By the way I just received a short time ago two old papers from Teeling which I never hoped to have although the dried figures had been entered in the iconograph. I am wondering if you did not send them - they were forwarded from East Lansing. If you did, I am grateful to you as well as to Dr. Teeling.

I hope this finds you both well & enjoying yourselves. Hannah Boardale is going to Scotland and Europe again this summer. Best regards until later - Jerry.

MICHIGAN STATE COLLEGE
EAST LANSING

Oct. 22, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

I am wondering if you and Edith are home and how you are. I do hope the trip was entirely pleasant and profitable. It was fine that you could stay on for a while in England and I know you must have enjoyed it thoroughly. We shall be anxious to learn about your trip and I think a detour via East Lansing would be in order. We would guarantee that there would be no more sprained ankles- no dunking in bog holes- and no traffic tickets.

Life goes on apace here-with usual complications. The meetings were very good--a large crowd--well-attended sessions and lively conversation. After the meetings a few of the boys and I took off to the NE section of Minnesota--to that wilderness area to collect desmids. Made quite a haul--but some surprises too, for where we fully expected to find suitable habitats the water was curiously basic and only in a few places did we find really 'rich' habitats at all comparable to the New England, Canadian, upper Michigan type of situation.

Had an interesting letter from Teiling questioning our disposition of a *Staurastrum gracile*, var. *minimum*. I have not had time to look into the matter yet but shall soon and then write you. He wrote enthusiastically of your visit. I envy you your splendid opportunity to visit with him and the others.

Kins regards to you and Edith-



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

*P.S. We are now grandparents - a fine little girl. How am I supposed to act now?
Should I retire - apply for old age pension or what?*

Nov 2 1955

Dear Jerry,

Many thanks for your letter. And congratulations to you and Tess on becoming grandparents. But its no good asking me how you should act now; I've had no experience in that line, and never expect to have! Our friends who have achieved that distinction behave much as they did before, and seem just as frisky as ever.

I have been laid up in bed for three days with a bad cold, the first I've had in more than a year. Today is my first one downstairs in the basement, with my desmids, but I don't feel like working on them, even though there is plenty for me to do. It will take several days more before I shall feel quite well again.

Well, we returned from our wanderings a month ago, and were extremely glad to see New Orleans again after five months absence. We flew from London to New York, tourist class, and don't let anyone tell you that is a pleasure trip. It aint! Fifteen hours, all in darkness until you sight the US coastline at dawn. We were able to get out and stretch our legs during the half-hour stops at Shannon and Gander, but were unable to sleep even though we took sleeping pills, because of the terrific noise from the engines, far worse than any other plane we have been in, and caused apparently by the engines not being synchronized properly.

The European trip was a wonderful experience, of course, but we tried to do too much. I had anticipated this, but felt that we ought to see as much as we could, for there is not the slightest chance of our ever being able to do it again. One of the couriers on our tour remarked that many Americans defer their European trip until they are too old to enjoy it properly, and that was exactly our fix, so if you and Tess get the opportunity of going there, take my advice and don't put it off too long.

In England I had hoped to visit Wray Castle to meet Dr. J.W.G.Lund, because our tour passed only a few miles away, but it was a Sunday and I did not feel that it would be worth while to hire a car and go looking for him in the couple of hours that was all I could spare. In London I called at the British Museum of Natural History, and met Mr. R. Ross, the Curator of FW Algae. He is a diatomist, and not much interested in anything else. He showed me a lot of the Wests' original drawings of desmids, so if you go there be sure to ask for them.

In London also I met Dr. Prowse, from Khartoum, who sent Grönblad the material from Lake Ambadi containing those weird Micrasterias. With him was his Chief, Dr. Julian Rzoska, a charming fellow, who is working on some of the plankton fauna, I have forgotten just what. Prowse has now gone to Malaya, and will send more stuff from there to Grönblad; Rzoska also has promised more material from the Sudan.

Prof. J. Heimans and his wife kindly came to see me at the airport in Amsterdam, and we chatted for an hour or more during my wait between planes. He is 78 years old, and she only a few years younger, but both are actively interested in desmids.

The St. gracile fa. minimum that Teiling wrote you about is in our South Australian paper. He tackled me about it while I was there, and I told him that it was your determination, not mine, for I remember writing you at the time "Teiling will not like this". St. gracile is one of his pets, and he claims to be able to distinguish it without difficulty from the several other species that it resembles.

To me St. gracile is very puzzling because of the many different interpretations that various authors have given, and I am never sure of my identifications of it. The small Australian form, our Pl. 5, Fig. 2, probably does not belong to gracile, but I don't know just where else to put it.

Flying over southern Sweden I saw hundred of small lakes among the pine forests, and Teiling told me he has collected from about 800 different lakes. That's quite a lot, but I suppose that I have collected from more than that number of habitats, though a lot of mine are swamps and ditches which I find are more productive of desmids than the lakes we have here. Another curious sight from the air, that puzzled me considerably, was many large fields of a bright yellow plant, with no green visible at all. Teiling told me that the Swedish name is "raps", pronounced "rrrahs", and from a dictionary I found it is the English rape, related to mustard, and that an oil is expressed from it, called colza oil. When I was a boy in England, 50 years ago, the policemen used to carry at night lanterns that burned colza oil, and they used to smell abominably if the wick was not trimmed correctly.

The highlight of this part of my trip was my visit with Grönbjälde for three weeks. No doubt Hannah has told you what a remarkably fine man he is; kind, generous and obliging almost to a fault. He plays the piano very well, and has a large library of general literature in four languages, Swedish, Finnish, German, and English, in addition to his collection of desmid literature. The latter is not so extensive as Teiling's, and he regrets very much that he did not start an iconograph many years ago; now it is too late, as it is with me. But he has a most astonishing knowledge of the literature, particularly of the European, and can tell almost instantly where he has seen an illustration of a certain desmid, and put his hands on it in a few minutes. But when it comes to a series of strange desmids that are probably new, it takes a long time digging out similar forms for comparison, much longer than if he had an iconograph. His microscope is an old-fashioned brass one that I should have discarded long ago, but it works very well when you get used to its adjustments. It is set on a shelf in a dormer window projecting through the sloping roof of the second story, a mere cubbyhole about three feet deep and four feet wide, just enough for elbow room and a few dishes and bottles; I could never work in such cramped quarters. The room itself is somewhat of a mess, with books, reprints, drawings and letters scattered all over the place, but that's his system and he knows it just as well as I know mine, or you yours. He and I worked together on at least fifteen out of the twenty days, from 11 am until 10 or 11 pm, with a break for tea about 4.30 and another for dinner at 6.30. When the time came for me to walk back the five or six blocks to the hotel, I was good and tired and ready to fall into bed. But we accomplished quite a lot, completing the determination of my more than 3000 drawings from USA except a few that I had to bring back for further investigation. In them we found something like 160 new taxa, which he is writing up now for publication. Also we finished several hundred drawings from the Sudan, finding more than 200 desmids in the one lake, with about one-third of them new. And a few hundred drawings from Brazil, though our study of this material is not yet completed. We had quite a few friendly arguments about identifications; he is not so dogmatic as Teiling, and in some instances I managed to convert him to my views; in others I had to admit that he was right. In one case we are still at variance, - *Cosm. quinarius* which he is convinced is merely the N. American form of *C. Paulense* from Brazil, which is also common in Europe.

I should have liked to attend the AIBS convention, and indeed had contemplated doing so when we were scheduled to return at the end of August. But my sister and brother-in-law invited us to stay another month with them, and we were very happy to return to their comfortable home and the beautiful Devonshire country. I suppose you attended some of the meetings of the Am. Micros. Soc., and perhaps you can tell me whether anyone brought up the subject of the lack of botanical papers in the Transactions. I am getting sick and tired of seeing nothing but papers on parasites, worms, and fishes. Some of those fish papers do not belong in the Transactions, since they involve no microscopical work whatever. There must be ichthyological journals where they could be published. But they seem to be written by Dr. Brown's students.

Also can you tell me the name and address of the new President of the Micros. Soc.? I have in mind writing to him on this subject, since Dr. Brown pays no attention to complaints, except to say that he published the kind of papers that are submitted. I know that he is doing an onerous and thankless task, but he and the former editors have permitted the Transactions to be filled with zoological papers, to the almost total exclusion of botanical ones. One of the results, I think, is to be seen in the fact that in 1954 the Society lost 10% of its memberships through resignations, and only gained 5% in new members, and I expect a similar trend will be shown this year.

From Dr. M. A. Donk, Editor of "Reinwardtia", I received the proof of our paper on *St. Wildemani*, and I returned it with numerous small corrections. In his accompanying letter he said that he had squeezed it into the September issue. In a second letter he said that publication is far behind schedule, so I suppose it will not be printed until some time next year.

There is still no word from Australia about the publication of our paper on Algae from Arnhem Land, so I am writing to Ray Specht asking him to tell me what the present situation is. Ivan Ophel tells me that Specht is coming to California at the end of December, and that makes me suspect still more delays. It is now three years since I sent him the manuscript.

I note that Dr. P. C. Silva did not print the photo of Dr. Krieger in connection with Grönblad's obituary notice of Krieger in the last issue of the Phycological Society's Bulletin. This is a pity, for it would have been of much interest to all desmidiologists, and only a few of his closest friends have ever seen his photograph. Also neither Grönblad nor I have received the extra copies of the Bulletin for which I asked and offered to pay.

I don't suppose you had a chance this summer to do anything with the Indonesian desmid drawings that I sent you early this year, but I wish you would try to find an opportunity of doing so, and also to examine the samples for the other miscellaneous algae. As soon as I can clean up my arrears of correspondence and get my mind back to work again, I shall go through the collections again to get a lot of desmids that I know I have missed on previous examinations, and thus finish up the first lots of material.

Best regards and good wishes to you and Tess, from Edith and myself.

Sincerely,

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

Nov. 7, 1955

Dear Arthur:

So very relieved to have your good and newsy letter--and the many interesting inclosures---but of course I am sorry to learn that you are being pestered with a bad cold. The north is keeping in step with you--because almost everyone here is suffering from the same affliction. I am knocking on wood myself and so far I have dodged it--and I better have because I certainly cannot afford time out this week to mess around with a cold. It was a most interesting letter you wrote and I was so very glad to learn about Gronblad and Teiling and your visits with them. You are to be congratulated for having done so much in so short a time and to have borne up so well. Strenuous travel any place is not easy--even for persons younger than you so no wonder you felt the strain a little since you were so very much on the go. I should like to make a similar trip--but at present my eyes are for the tropics and the SE Pacific. I would give a great deal to be able to study and work in Borneo or Java.

Thank you muy mucho for the interesting stamps, the souvenir of Heimans, and for the handsome *Micrasterias* 'shot.' I think I shall use that for a model for a book-plate. I did not realize that Heimans was so well along in years--but of course he has been publishing quite a while.

I wrote to Teiling in answer to his query about *St. gracile* fa. *minimum*. He said in his letter something to the effect--why don't we recognize Smith's interpretation of *St. gracile* and let it go at that? I do not know what he meant exactly by that, for of course in making our (my) determination of fa. *minimum* I certainly did take Smith's analysis of the species into account--as well as Teiling's. I am open minded about the naming of this plant--but until someone can show that our plant is NOT *St. gracile* in one of its 8,000 expressions I find it necessary to associate it with that species, and because of its size and because of its variation (slight to be sure) in granulation, I think it is worthy of a form name. I congratulate Teiling on his ability (so he says) to clearly and easily differentiate *St. gracile*. I must confess that I cannot make such a claim. There are several species which intergrade so well with one another that I think it is going to take culture work and zygospore morphology to differentiate or to lump these forms. With a little serious study it may well be that we are looking at and trying to differentiate some entirely different species of *Staurastrum* which have evolved in such a way that they have come to look much like one another--but which are quite different in their reproductive and zygospore phase. In any case I mentioned to Teiling that I had over 70 different (mostly) expressions of *St. gracile* in my iconography and that the Australian form seemed to be smaller and a little different from any of these--so, as far as my present feeling is, I shall have to beg Teiling's pardon and ask permission to disagree with him.



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

On the *C. Paulense-C. quinarium* problem, one should see the actual type specimens to come to a conclusion# that would be satisfactory and definite. I wish we knew what Kriger has done with these two names. When one compares the type drawing of the two (*Boergesens* and *Lund.*) the two expressions seem to be very very closely related--with enough variation to justify a name separation, but a separation which might involve one being named a variety of the other. *Boer. C. Paulense* originally is shown with a slightly exerted apex and with pairs or groups of granules rather than the rotund-pyramidate semicell of *C. quinarium* with large, evenly disposed granules. So actually, judging from the drawings only, one can differentiate these two plants, but when one compares the interpretations that various authors have given the two plants, one certainly cannot not differentiate them. I have published on *C. quinarium* and based my determination on the form and arrangement of the granules and the morphology of the lower lateral (basal) angles--which is different in the two plants as originally described. I am inclined to believe that there are two similar plants but different species but am willing to be shown that they are one and the same. Johnson, H. rano, et al have described some forms that confuse the picture. I think Johnson's plant named *C. paulense* is an entirely different plant--maybe a different sp. or at least a different variety from the typical.

We all have the same criticism of *Trans. Amer. Microsc. Soc.* It certainly has become an outlet for nematologists and worm researchers of all kinds. The Secretary always has the same answer to criticism, however-- we will publish papers in other fields if authors will send them to us. I have momentarily forgotten the name of the new Pres. I shall think of it or look it up and send you a note. I did not attend the business meeting because of duties with the Phyc. Soc.

The picture of Krieger was not the right 'tone' for a cut and for reproduction according to the printer of the bulletin. Silva tried to get a cut made but they advised against it so he sent the picture back to me. I wish that it might have been printed along with the obituary notice.

I shall certainly do what I can with Indonesian desmids and the other algae. I keep samples handy for study when I can squeeze in a little time. Just now I am doing arctic algae and examining alpine stuff gathered this summer in the west. I have a young woman, Mrs. Uyenco, working hard on the file of desmid literature and on the file of North American desmid distribution.

Must get home or I shall be reprimanded--so enough for now. Will try to write again soon. Meanwhile--get well over your cold. Our regards to both you and Edith.

Cordially,



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

Nov 29 1955

Dear Jerry,

Many thanks for your letter and your comments on *St. gracile* and *Cosm. quinarium*. It is no good worrying about the differences of opinion between various desmidiologists on these and other questions. There always have been and always will be such varying opinions, and there seems to be no way of reconciling them, unless it were possible to get everyone together round a table with a microscope and original specimens, and then thresh it out. Since this will never be possible I am simply going to forget the matter.

In my last letter I asked about my drawings of Indonesian desmids that I said I had sent you earlier this year. This was a mistake. I came across the drawings here a few days ago, and now recall that I had contemplated sending them to you, but decided not to do so, because you would have no opportunity to work on them since you were going to Montana for the summer course. I will send them when I have completed the study of the remaining collections.

I have a letter from Sachlan enquiring about our next paper, and saying that you have asked him to get living specimens of the *Ichthyocercus*-like new genus. No doubt he will do this when he gets a chance, but in the meantime I think we might get out a paper to get the new plant into print. What do you think? There are two 'basic' or 'primary' forms of the plant, each of which has both poles alike. It seems to me that one of them, say the 'fishtail' form, will have to be established arbitrarily as the type species, and the other one, with the down-turned corners of the poles, named as a variety, though we have no actual information as to which of them originated first. Both of these forms are extremely rare; I have seen just two specimens of each, and I believe Sachlan has also seen two of each, perhaps more. Against this there have been seen probably 50 or more of the dichotypical form with unlike poles. I have managed to capture on a slide one of the primary forms with two fishtail poles, also a single semicell of the fishtail type, and am sending the slide by this mail. Note also on the slide a very curious new variety of *M. mahabuleshwarensis*, with extraordinarily long spines across the base of the semicell and along the margins of the polar lobe. This is from the Menggala, Sumatra, material, and I have also found it in a Borneo collection.

I am half-way inclined now to think that the new plant might be placed in *Ichthyocercus* instead of in a new genus. True it has several features not included in the diagnosis of this genus, but since the unlike poles are not a generic character I think the remaining ones, such as the cell curvature, the apical notch, the two mucous pores, and the basal teeth, could be covered by an emendation of the generic diagnosis. This would be analogous to the expansion of other genera, which now include plants that are vastly different from those on which the genera were first founded. It is purely a matter of personal opinion or preference. If you think a new genus is preferable (and there are enough characters to justify it), that would be OK with me. A name for a new genus might be '*Pseudichthyocercus*' or '*Metichthyocercus*', or something like these, or you may think of a better one.

If you will tell me your opinion, I will make up a plate of drawings and write some introductory remarks. Then you can do the formal diagnoses and write something about the feature of dichotomy. Then if at some future date Starr or Kallio can get living specimens and cultivate them, the results could be made into another paper.

Dr. M. A. Doők, Editor of Reinwardtia, wrote me again about the paper on St. Wildemani, saying that the September issue had not yet gone to press, and that there would still be time to make further corrections in the proof, which accordingly I did, and returned the proof to him. Sachlan says the paper will be printed about the end of this year.

Also I had a letter from Ray Specht, enclosed herewith, from which it appears that our North Australian paper may be printed in another year or two. Note what he says about Ruth Patrick; that's a very unsatisfactory business, and I shall certainly never again send her any material. Early this year I sent some stuff to Dr. Hustedt in Germany for study of the diatoms, and I think he will give it more attention.

I see you haveing some pretty cold weather up in Michigan. So are we, that is - cold for this part of the country. For three days the minimum temperature has been 32 - 34, and for tonight it is predicted as low as 28 - 30. I don't like it!

With best regards,

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

Dec. 2, 1955

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Friend Scott:

I was glad to have your letter and the intriguing slide which arrived safely today. What is the medium used for this mount? The specimens certainly show nicely--and what a grand array. There are so many 'strangers' in the mount that it induces me to want to sit right through a session with the camera lucida. I note a curious Cosmarium that I cannot place at all (sketch inclosed). What have you called it, if anything?

I found the one semicell of the new genus; but as yet have not located the specimen entire which you have indicated on the left side of the mount. I am wondering if you meant that in that left hand side there was a whole cell of Ichthyocerus longispinum. I found this in that area, and several other individuals on the slide--but not the new 'critter.' Shall look again tomorrow. I have your drawings, however, and the little vial you sent once containing a specimen of the bipolar type.
on slide

I am still convinced that the characters of this plant (aside from the bipolar feature which appears in some individuals) justify its being assigned to a new genus. It is just as different from Ichthyocerus as Docidium from Pleurotaenium. I am thinking especially of the pores and of the basal teeth. The great difference in size is not a taxonomic one, but certainly helps to separate the two nevertheless. In view of the fact that more individuals appear with the bipolar morphology, and inasmuch as this type of plant was the first one seen, I think the genus description should be based on that, with the plant with similar poles and the straight cells assigned as a form (possibly a variety) of the original. On the semicell which I found (sketch included) I find two small polar granules, one on either side of the median notch just within the margin. Have you seen these before? I do not see them on your previous drawings.

For a name what did we decide about Docideastrum Sachlanii? Is Ichthyodontum any better? Such a name would refer to two of the chief characteristics of the plant.

The 'deal' with Patrick is certainly a sad one, and I regret it if it were I who influenced the decision to ask her to work over the diatoms. I thought she would be more speedy than Conger, who is very, very slow about getting over material and reporting (excellent though his work is). Now Ruth has gone off to Peru and no telling when one will ever hear from her again (if ever). I am glad that there is still hopes of getting the algae volume published. It has been so long now that I have forgotten just how we stand. Is this the paper for which I was reporting on the miscellaneous filamentous algae. I remember working over vials and making drawings of a number of algae (including some Oedogonium). I shall have to look those up from their resting place and begin to think about getting them in shape. I judge that there is no great hurry, but what does Specht mean by sending manuscripts to the publisher by the end of December. Am I mistaken, and is he referring to manuscripts which he



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

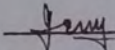
DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

already has. I am sorry to be so stupid about this but have become rather dim on what the status is. Have been working on 5 or 6 different manuscripts during the past year and one thing crowds out another. Just now I am trying to finish a husky paper on distribution of freshwater algae in the arctic for the Oxford printing (under Polunin)--although I understand he has gone off to Iran so there may not be any hurry there.

Yes, I found the beautiful *M. mahabuleshwariensis*--certainly a new combination of features, although I note that a form of Raciborski (Bot. Zeit., 1895, fig. 7) has very similar granulation (teeth and spines)--but an altogether different shape of semicells. So in spite of the fact that we already have so many forms of this species--this one will have to be set up as still another one. That Borneo country certainly gives me a great yen to get out there for field work. Sachlan writes that one of my former associates, Frey, is there in Java working with him. I do not know under what arrangement--possibly a Fulbright. May I retain the drawing of this new variety--or should I return it?

Thanks for your good letter. Please give our regards to Edith, and our hopes that she is well and not too tired after your whirlwind trip.

Cordially,


G. W. Prescott



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

Dec 8 1955

Dear Jerry,

The slide I sent you is just one of my temporary water mounts, sealed by placing tiny scraps of paraffin around the edges of the cover-glass and melting them over a match flame; the bunsen flame is too hot. It will only work, of course, if there is a ring or cell on the slide. Formerly I used vaseline for sealing, but the water slowly evaporated, or air crept in, although the vaseline apparently filled the entire space under the cover. I don't know if the paraffin will last any longer, but the slide is probably not a permanent one.

In addition to the *Ichthyocercus longispinus* there is a whole cell of the new genus, of the double fishtail type, which ought to be in the approximate location indicated by the red dot. Perhaps it has moved, and may be hiding under one of the masses of mucus debris. Also there is the empty semicell that you drew. I have not previously noticed the two polar granules that you drew, and shall have to look for them on other specimens.

I am glad you still feel that a new genus is justified without the bipolar feature, but I must say that I think it would be quite wrong to base the genus on the specimens with unlike poles, in spite of the fact that they are 10 times more numerous and that they were the first ones found. Of course, if the dichotypical specimens had been the only ones found there could have been no question; this was the case with *Amscottia mira* from Brazil, but I now feel sure that one of these days someone will turn up an *Amscottia* with both semicells alike. I feel the same way about the two new *Micrasterias* species from the Sudan, of which the 100 or so specimens seen by three men are all dichotypical.

You may remember that the first 14 specimens of the new *Ichthyocercus*-like plant that I saw were all dichotypical, also about 10 seen by Sachlan. Then the 15th specimen proved to have both poles of the fishtail type. That made me certain that there must be another form with both poles of what I called the 'depressed' type, and I started a deliberate search for it. After several days of tedious work I finally found what I was looking for, just one example of a cell that is almost straight, and with both poles depressed. In the new material that Sachlan collected last April and which I received only two days before we left for Europe, I have now found exactly one specimen of each of the two symmetrical types, and Sachlan also has seen one of each, or perhaps more. So the situation now is that about four specimens each of the two symmetrical types have been found, against perhaps 40 or 50 of the dichotypical ones.

From all that has previously been known about desmid reproduction it has been thought that a dividing cell could only produce new semicells that were exactly like the parents, and that the occasional examples of combination forms were unexplainable 'accidents'. The Wests rejected the theory of hybridism, but in view of the developments of the last three years, with Starr's sexual strains and Kallio's clones of 3- and 4-radiate *Micrasterias* *Thomasi*, Gronblad's finds of the 2 new *Micrasterias* from the Sudan, and my own finds of inherited dichotomy in *Amscottia*, *Ichthyodontum*, *Spinocosmarium* *quadridens*, *Staurastrum* *bibrachiatum*, I do not see that any other phenomenon but hybridism will explain the facts. Proof can only come from culture experiments, and we shall probably have to wait a long time for that.

No matter what the explanation may be, the fact remains that we must regard the two symmetrical forms as the primary ones, from which the dichotypical form has developed. Therefore, in spite of the accident of first discovery, which was only

by a matter of a few days or a couple of weeks, ~~but~~ and in spite of its greater frequency, the dichotypical form must be regarded as a secondary one. To do otherwise, and make the dichotypical form the type of a new genus, would, I believe, be contrary to taxonomical principles. Somewhere in the literature there is a remark to the effect that several desmid species were founded on plants that are now known to be less typical of the species than forms discovered later and which because of the Rules had to be named as varieties. In the present case we know of the existence of the three forms in advance of publication; further that they co-exist in the same habitat; so it seems very clear to me that we must select one of the primary forms as the type of the new genus. Grönblad has in preparation (perhaps it has been printed by this time) dealing with a revision of *St. bibrachiatum*. He is amending the diagnosis to include in one species three apparently different forms which seem always to occur together and in various combinations, on the theory, which has also been expressed by others, that a species is not a single form but a population. I don't know if I have quoted this quite correctly, but you will get the idea. If we followed this theory, we might describe the type of the new genus as including both of the two symmetrical forms. Grönblad insisted that my name appear as co-author of his paper, though all I did was to supply some of my own drawings and make some new ones for him from his Italian collections.

Originally I suggested the new generic name *Docideustrum*, to which Telling objected, and logically I think, that the last part of the word means 'star', and there is nothing starlike about the plant. Your suggestion, *Ichthyodontum* (not *dentum*) does not quite fill the bill either; *Ichthyocercus* means 'fishtailed', so *Ichthyodontum* would mean 'fishtoothed', not quite what we want to express. My imagination seems to have run out.

For the Arnhem Land paper referred to in Specht's letter, you drew 6 plates and I drew 22 plates, in 1952. All these original drawings together with the completed Ms. were sent to the editor more than 3 years ago, and there is nothing more to do except wait for the proofs. That is what he meant by "sending the manuscripts to the publisher by the end of December", when Specht will leave Australia for California.

The *Cosmarium* that you sketched I take to be close to the specific form of *C. angulatum* (Perty) Rab., though I have no illustration of it. We have something very similar, but 50% larger, in the Arnhem Land paper, which you called *C. angulatum* f. *major* Grunow. The smaller form occurs in several collections from Sachlan, and also the larger one, I believe.

Please let me know what you will do about *Docideustrum-ichthyodontum*, because your decision will affect the order in which I place the several figures on the plate, the type of the genus being Fig. 1, and the others following.

With best regards from Edith and myself,

Sincerely,

Jan 5 1956

Dear Jerry,

Edith and I were worried on receiving your Christmas card telling of Tess' emergency operation, and could not imagine what could be the matter. Now Edith has a letter from Tess and both of us are greatly relieved to know that she is over the operation and well on the way towards complete recovery. Its too bad that you and she had to miss your contemplated visit to see the children and grandchildren, but it could have been much worse.

There seems to be an unusual number of operations and illnesses among my desmidological friends lately. Undoubtedly you know that Hannah's mother was operated, but Hannah says she is much better now. Telling's wife went into the hospital just before Christmas, for observation, diagnosis and possible operation of a tumour on her neck. I haven't heard anything from him since then. A few months ago Crönblad had a recurrence of trouble from a stomach ulcer. And in November I had a minor operation for removal of a very large cyst on my posterior which had bothered me for several years. This caused me to lie up in bed for nearly two weeks, because it was painful and dangerous to sit, for fear of breaking open the incision and stitches. The place is still quite sensitive, but I am back at work again.

Just when I thought I was getting near the end of my study of Sachlan's Indonesian material, he sent me three new samples from Sumatra, with a lot of interesting details, mostly small to minute *Coelastris* and *Diastis*, very difficult to study on account of their small size and lack of empty specimens, and also hard to draw satisfactorily. A very curious and unexpected find is a small variety of *M. arcuata*, very close to the form that we named var. *robusta* f. *recurvata*. *M. arcuata* and its varieties are supposed to be strictly American forms, though W. & W. have reported the species and one variety from Angola, W. Africa. Another one is a *Staurastrum* very close to *St. calyxoides* Mollé, also known only from USA and Canada.

After some more letter-writing I have been able to get exactly what you want in the way of complete chemical analyses of several lakes in Louisiana and Florida, but unfortunately I do not have algal collections from any of them. Those from Louisiana are all from the northern part of the State, and if you think it advisable I will make a special trip up there a little later, when the weather gets warmer, and get some material. The analyses came from the U.S. Geological Survey, Quality of Water Branch, which deals exclusively with surface waters. Another Branch works only on ground waters, which is not what we want. Undoubtedly they have a Quality of Water Branch in Michigan from which you can probably get water analyses of your lakes. I am also passing this information along to Hannah. I will send the analyses later, after I have copied some of them.

With best regards and good wishes for the New Year to you and Tess,

Sincerely,

Jan 18 1956

Dear Jerry,

Enclosed is a rough draft of the paper describing the new genus from Sumatra, with diagnoses, and a print of my pencilled layout for the one plate of illustrations.

The diagnoses are pretty much as the one you wrote about 18 months ago, with only the necessary changes to separate the two differing forms. My letter of Dec 8 1955 (which you did not answer) gives the reasons why I believe it is necessary to make one of the symmetrical forms the type of the genus and species, and not the dichotypical form although the latter was discovered first by a couple of weeks.

Please look over the paper and diagnoses, and make any changes, deletions, or additions that you may think necessary or desirable.

Sincerely,

Jan 31 1956

Dear Jerry,

Here's a print of the finished plate for the *Euastroides* paper.

I have found several more empty specimens, and have been able to turn two or three of them for a true and also an oblique side view. The apical granules than you indicate on your sketch were not visible, but in some specimens there are internal thickenings of the apical wall, as shown in my Figure 7, at just about the same place where you show the granules. Perhaps under some conditions they might give the impression of external granules, which I believe do not exist.

Hope you can let me have the Ms. back soon, with the descriptions, so that I can send them to Hannah for the Latin diagnoses.

Best regards from

Feb. 1, 1956

Dear Arthur:

Am 'on the shelf' at home, but things are not so complicated but that I can answer your good letter and check over the draft of the manuscript for Euas-troides Sachlanii and its variety. Your plate of figures is nicely balanced and shows all the features clearly. How I envy you your skill in delineation.

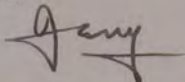
I have made some minor changes and some suggestions relative to wording in the manuscript. I hope they do not present any problem to you--they mostly are just my personal ideas as to how to make an expression a little smoother (possibly). I have suggested a paragraph for insertion (some thoughts about the bipolarity problem). If this does not seem worthy of inclusion just forget it. I thought that it might be in order for us to expound on the matter a little since the dichotypic phenomenon presents so many interesting genetic problems. Is 'intermeshing' a good word? It is meaningful but I do not find it in the dictionary.

It appears that we should, as you previously indicated) describe the 'normal' type of cell as the type. Of course it is more or less a matter of accident that the dichotypical plant was not described and put into print before the 'normal' type was discovered. It was seen first and appears to be more common than the 'normal' forms. To me, the whole picture indicates a case of current evolution in the genus and suggests the possibility that we happen to be looking at the most recently derived form in the dichotypical plant. The ancestral form of the plant should, therefore, be described as the 'type.' I am returning manuscript and notes and hope that you can make some sense out of them. Let me know what you think and whether I can do anything to be of help.

You may be interested in knowing (this is on the QT, please) that I am up for consideration in the matter of appointing a new editor for Trans. Amer. Micros. Soc. I have mixed feelings. The work will be tremendous in view of my other duties, but personally and professionally, I would certainly like to see a botanist at the 'helm' for a change--and I would like to see what I could do to bring better balance to the Transactions. I have replied that I am willing to be considered--so we shall see what happens after Feb. 15. In the meantime I guess I should just forget all about it--but I thought I would just mention it in confidence to you since I know you are interested in the problems involved in the journal.

We are working away on the cataloguing of all the desmids reported from North America--and who reported them. Bill Wade is doing up the Minnesota desmids for whatever new records may come from that part of the country. I may make a trip to the Everglades during spring vacation (or to nearby areas) for I am convinced that Florida is rich and has not been but merely touched as far as desmid resources are concerned. If I do I would like to plan to meet you--either going or coming.

Best regards to you an Edith--



Feb. 4, 1956

Dear Arthur:

Received the finished edition of the plate. It looks very fine. It is interesting about the intramarginal granules at the poles. To me they appear as very low, external swellings--but I may have misinterpreted them of course, or they may be only incidentally present and not present on all specimens. By now you must have the manuscript back--I sent it off just a couple or three days ago.

I am bothered by the name *Euastroides*. I cannot locate it in my files any place, but I have an uncomfortable feeling that it has been used. Probably I am only remembering species names (which it is like). I suggested *Ichthyodentum*, thinking of the Latin ending--which of course would have made it a hybrid name- but then we have plenty of them-- in fact nearly every time a Greek-derived word is used for a genus or species name it is Latinized.

I have forgotten, if you mentioned it, where you were planning on sending this paper for publication. Had you considered *Trans. Amer. Microsc. Soc.*? It would help to take the journal out of the 'worm' class.

I am scrambling desperately for time to spend on the desmid work. The best I can do so far this term is to keep my assistant busy building up the check list. Fortunately, papers on desmids seem to be appearing in something less of a shower than they did last year so there is some hope of catching up. Hannah's paper should be out soon.

I hope you are not freezing down there in the unreasonable weather cycle. Florida has been mighty cold lately I hear. Poor Texas! Up here we just have the same old miserable chill- wet and cold- ice and then slush--not much snow- but just orhery and fuel-consuming. I am wondering what the Everglades will be like in mid-March. Have you ever been there at that time of year? I am trying to get some information to help me decide whether it would be productive to go into the hammocks for some desmid collecting early in the spring.

How is Edith? I expect she is mighty busy. You have some wonderful experiences to think about during the winter. I hope we have an opportunity to hear more about your trip. Our best regards to you both--


G. W. Prescott

Feb 6 1956

Dear Jerry,

What do you mean, 'on the shelf'? I hope that you are not ill, nor have met with an accident. Please let us know.

Your suggestions for changes and additions to the Ms. are all good, and I shall make them in the final writing. I too thought something should be added on the subject of bipolarity, but did not know how to write it.

Perhaps a few words of explanation regarding some of my expressions may elucidate them. I used the word 'intermeshing' in preference to 'interlocking' because to me, as an engineer, they have distinctly different meanings. In engineering 'intermesh' is used of objects, like the teeth of gearwheels; that engage each other or interpenetrate but do not interlock. 'Interlock' is applied to objects that not only interpenetrate but actually lock together and cannot be separated except by an intentional unfastening of the locking mechanism or by the application of sufficient force to break or deform one or both of the members. An example of interlocking is the knuckle-joint railroad car coupling used in this country; another is the isthmus joint between two desmid semicells, where the 'neck' of one semicell is expanded inside the other one, so that the joint can resist considerable internal pressure (turgor). But biologists are not engineers (and vice versa!), so one word is as good as another, and I shall change to 'interlock'.

The phrase 'width of isthmian notch' was used because the actual isthmus is not visible, being concealed by the overlapping teeth. I think I shall omit this dimension entirely, since it may lead to confusion. I have given the size of the opening in the isthmus, which can only be seen in a basal view of a semicell.

Dr. M. A. Donk, former editor of *Reinwardtia*, told me that one of the new International Rules required the type of each new taxon to be designated. In the case of higher plants I suppose this would be a herbarium sheet or specimen, but in the case of microscopic plants the type can only be a drawing. That is why I inserted the sentence.

Much as I should like to see you edit the *Trans. Am. Micros. Soc.*, I cannot see how the devil you could do it with all your other duties and interests. Dr. Brown wrote me a few years ago that he was spending 30 to 40 hours a week on the job of editing. Even if he exaggerated somewhat, that's something to think about. But something must be done or most of the botanists will resign, as I have seriously considered doing, and then the circle of readers will be so predominantly zoologists that there will be no incentive for the remaining botanists to publish their papers in the *Transactions*.

It will be wonderful if you can visit southern Florida during the Spring vacation; the Everglades is a sight that every biologist and naturalist ought to see. Naturally I hope that you will be able to stop in New Orleans for a day or two, so that Edith and I can try to repay some of the hospitality that you showed us; also I should like to show you my microscope room, which I think you would find interesting. But if you cannot include New Orleans I should be glad to meet you elsewhere are perhaps drive through Florida with you, for I assume you are going by car. Tallahassee would be a suitable place; most of the highways cross there. Hannah and her mother are thinking of driving south about the same time (Mch 25-Apr 8) and hoped that they might get as far as New Orleans. But so far it's still in the air.

But when you say that you think Florida has barely been touched as far as desmid resources are concerned, I think your memory must be going back on you. Perhaps it's old age creeping up on you, as it has already crept up on me. I have made 12 trips to Florida, spending 4, 5 or 6 days in the State each time; have collected along most of the north-south highways as far as Key West; most of the roads between the east and west coasts, and many secondary roads, making an effort on each visit to cover new ground. As I have told you, the last two or three trips that I have made to Florida have resulted in such a small number of desmid acquisitions that it is no longer worth the time, effort, and \$200 cash outlay that a week's trip requires. So I believe that I have collected a very large percentage of the desmids that exist in the State; undoubtedly there are many more to be found, but someone else who lives closer to the scene will have to do it.

Irenée-Marie's Flore Desmidiale contains 527 species, varieties and forms. Based on a comparison with this work I should guess that my total from the southeastern States must be close to 800. There is another way of guessing. I have made about 3500 desmid drawings; if there is an average of one desmid to each five drawings the total would be about 700, which I think is rather low. Here is still another method. From this large mass of drawings Grönblad and I have separated all those representing novelties, about 167 new taxa. If the novelties run to as high as 20% the total number would be over 800. Later this year I hope to be able to tabulate all the taxa, and then we shall see how close my guesses are.

I am now working on a preliminary paper in which these 160-odd novelties will be published by themselves. Grönblad has written nearly all the descriptions and Latin diagnoses, and Hannah is checking his Latin as fast as he sends them. I am ready to start drawing the plates as soon as he tells me the required size, which is to be slightly larger than he has used before. The paper will be printed in the Acta Soc. Sci. Fennica, in the quarto format the same as G.'s Brazilian paper. If all goes well we think it can be printed this year.

After this paper is out of the way I can start listing all the remainder of the desmids on my drawings, all of which have been identified. They will be published in a separate paper. I don't know whether all of them will be illustrated; that will depend on how much space is allotted to us, but at any rate all the less common species will be drawn.

So by the end of this year I hope I can give you a complete list of all the desmids that I have collected during the last 17 or 18 years. If you will tell me how you are listing them, and perhaps send me a small sample form, I will follow it so as to ~~make~~ keep to a uniform system.

Best regards to you and Tees, from Edith and myself.

Cordially,

P.S. Teiling gave me Kossinskaja's address: C. C. Kossinskaja, Prof. Popov-str. 2, Ap. 20, Leningrad, USSR. He sent her some reprints and got some in exchange. I also have sent her some.

MICHIGAN STATE COLLEGE
EAST LANSING

Feb. 7, 1956

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Glad to have your interesting letter of Feb. 6. You certainly have some large jobs cut out for yourself in getting your many collections analyzed and put into print. I do hope that some of the list may be appear before too long because they will be of tremendous value in summarizing the desmids of N. A. for a general, over-all study. No, I did not mean to imply that Florida had been untouched from the collector's point of view, but from the standpoint of total list and from the standpoint of disclosing novelties. Every collection you seem to make there has different and interesting forms and that leads one to think that the flora has not been exhausted as far as records of desmids in North America are concerned. It is a question of course with me as to whether a long trip down there into the Everglades would yield enough different material, and new records to make it worth while. As I remember, you have not collected extensively, or not so frequently in the Everglades as in other parts of Florida. Am I wrong? If I should go, and in order to save the little time that I would have, I think I would fly down, rent a car and do collection from some central point in southern Florida. I would be glad to have your advice on this in due time. It would be very fine if I could stop either going or coming in New Orleans to see you and Edith and your laboratory, and I think I would certainly be able to do that. Of course it would be all the better if you could be in Florida too, but it would be a long automobile trip for you. If I go I may take one of my students to help with the collecting because two can work more than twice as fast as one in making pH determinations and the collecting from numerous habitats.

The word "intermesh" is very descriptive and meaningful, but as a verb, does it exist? I cannot find it in any of my unabridged dictionaries--so I suppose "interlocked" comes the nearest to describing the situation, even though there is no actual 'locking.'

I am hoping that the Exec. Comm. will think of someone else for the editing job--but if they do, I hope that it is a botanist.

In reference to my cataloguing: For each algal species I have a 4 X 6 card on which I enter the name of the state or province where the plant was reported, the author, and the date. I keep a bibliographic file of all the papers and publications from which distribution lists have been extracted as a cross-reference to the author-date citation on the species card. Also, I am keeping a 4 x 6 card file of all the desmid species, its author and the literature reference where it was first described, page and fig. No.



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

MICHIGAN STATE COLLEGE
EAST LANSING

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

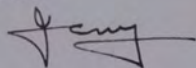
Especially, this list has been kept up for the plants which have been entered in the iconography--it is far from complete for the entire world of desmids--but I keep pecking along at the job and hope one day it will be dependably complete--at least before our desmid study is brought to an end.

Thank you for Kossinskaja's address. I wonder if she could get me the latest vol. of Flora Plantarum Crypt. URSS. The last time I put in a request at the address where I got Conjugate (1) was negative. I wonder why. I wish to the devil that the bibliography had been printed in something besides Russian. I have no way of checking it unless I send it off and get the chap in New England to translate it for me.

I am back in the swim again after nearly a week of foolishly taking it easy at home 'on advice' on the theory that my flu and laryngitis required rest. I don't think it does much good to humor a cold--but then one never knows. At least I always feel better if I can keep going.

Best regards to you, till later.

G. W. Prescott



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

Feb 12 1956

Dear Jerry,

Yes, it is true that I have not made many desmid collections in the Everglades, both because it is farthest from New Orleans (1000 miles), and because I have obtained much more interesting species from other parts of Florida. The name Everglades sounds intriguing and glamorous, and indeed the place actually is in many respects, but I found the desmids rather disappointing, since they tend to be mostly of the common hard-water species, and I have found very few novelties there. This remark applies only to the Everglades proper; outside of this area the collecting possibilities are much better. Perhaps you know that the Everglades is a vast but shallow depression in eolitic limestone, locally called 'coral rock' though it has nothing to do with coral, and I suppose that this still exerts its influence on the water, even though the bottom has a large accumulation of partially decomposed vegetable matter whose acids would tend to offset the alkalinity. Access to the swamp itself is difficult. The few roads that have been cut through it are flanked on both sides by deep and wide ditches from which the rock was excavated for the raised roadbed, and there are few bridges over the ditches. The roads themselves are 2-lane highways carrying a large volume of high speed traffic, and the shoulders are so narrow that you cannot park your car. However, on my last trip over the Tamiami Trail in December 1954 they were widening some of the bridges, so perhaps by this time the road itself has been widened. On a couple of occasions I have attempted to get into the swamp, but when my foot started going down into soft mud with no indication of a bottom, I quickly withdrew. In some places along the roads there are airboats for rent; these are flat-bottomed shallow draft affairs driven by an air propeller. I have never been in one, because Edith would not go with me, and was afraid to be left in the car among the Seminole Indians who rent them. The hammocks that can be seen from the road look like small islands raised above the water by a few feet; they carry a dense vegetation and frequently palm trees. I think that few of them can be reached without making an 'expedition'. The Ranger Station at the entrance to the Everglades National Park is on such a hammock, and they have cut a narrow winding trail, the 'Gumbo Limbo Trail', (Gumbo Limbo is a tree). I found it very difficult even to walk along the trail, because of the extremely uneven surface of the rock, which has been eroded by carbonic acid from the atmosphere and ground waters, and I have read that this is true of other hammocks.

All this is said not with the idea of discouraging you, just to point out the actual conditions. If you visit southern Florida you should by all means see the Everglades. I have been in the Everglades Natl. Park four times, despite the rather uninteresting desmids, and you would be able to appreciate the plants much better than I can, and also the birds and animals. Also the trip on the Overseas Highway to Key West is well worth taking, though there are no desmids to be found along the way, since it is all over salt water, and there is no freshwater on the islands except temporary rail pools.

On the enclosed map I have tried to indicate, in a very rough way, the roads along which I have found good, poor, or indifferent desmid collecting conditions, in southern Florida. Green lines mean 'good'; red lines indicate 'poor', and alternating green and red means either that there are few habitats or that the desmids I found to be uninteresting. In Collier County I have marked in black pencil an area where this 1955 map shows some roads that did not appear in previous issues, and which looks interesting. The minor roads shown in thin blue lines would probably be travelable in dry weather, but not in wet; information could be obtained locally or from one of the Florida Highway Stations.

I don't know how much time you plan to spend in Florida, but here's a suggestion. Fly from Detroit to New Orleans, and from here to Tampa. Rent a car in Tampa and work your way south, stopping overnight wherever you happen to hit. There are plenty of motels at all of the larger towns, and at most of the villages. By making prior arrangements the car could be turned in at Miami, whence you could fly back to Detroit; or you could return to Tampa by a different route, or to any other of the larger cities.

If it would suit you, it would make me very happy to fly with you to Tampa and accompany you on the auto trip, sharing expenses which would make it a little cheaper for both of us. On the route I have suggested I am pretty sure you could get an 'open-jaw' airplane ticket with the round trip reduction, at very little if any greater cost than a direct flight from Detroit to Florida.

Under separate cover I am sending a few numbers (all that I have) of a very nice little magazine, "Everglades Natural History", which unfortunately had to cease publication last year on account of financial difficulties, also a map of the Everglades National Park. Please return them after you have read them. They will give you some idea of the wonderful things to be seen there.

A couple of years ago Grönblad told me that he had obtained the second volume of Kossinskaja's monograph on desmids, and asked me if I wanted a copy since the supply might soon be exhausted. I wrote him immediately asking him to buy two copies, one for you and one for me, but it must have been too late for he was not successful. I saw the second volume in Finland; it is much thicker than the first but it includes other plants besides desmids. I intend to wait a few weeks until she has received my papers, and then ask if she can get a copy; you might also write her. I also asked Ruzicka to try to get it for me, but have not heard from him since. By the way, Ruzicka knows Russian, so he could probably translate the titles of the bibliography for you.

I hope by the time this letter reaches you that you will have entirely recovered from the flu, though I know from experience that the effects sometimes take a long time to wear off.

With best regards,

Feb 15 1956

Dear Jerry,

When you get a chance I wish you would look among the North Australian samples that I have sent you, and see if you have two vials marked "N.Austr. X-108 and X-109". If so please tell me what other information is on the label, that is habitat, collector and date. The reason for the request is that I have two vials so marked, but with nothing else on the label. They must have come from Specht, but though I have searched my correspondence file I cannot trace them, and I have forgotten what locality they came from. The material looks similar to that from Oenpelli, a very rich region. Specht has been sending me samples at intervals over the last few years but he does not always advise by letter. A few days ago I got two more tubes from him without previous advice; the only identification is that they were collected by Jim Blyth at Oenpelli in 1953; and it was when I came to assign numbers to them that I discovered I had no record of the samples X-108 and X-109. One of the new samples is fairly good, with a few novelties; the other seems to contain only one desmid species, which is a 5-radiate *Staurostrum* that is unfamiliar and may be new.

Sorry that the paper on the new genus from Sumatra cannot be published in *Trans. Am. Microsc. Soc.* Sachlan made a special request that all papers dealing with his material be published in *Reinwardtia*, the journal of the Botanical Gardens at Bogor. I have written to the former editor, Dr. W. A. Donk, who has retired and is living at The Hague, and who said that he might continue to assist with the editing, to find out if I should send the Ms. to him or to the new editor at Bogor.

I have decided to change the name of the new genus to *Ichthyodontum* instead of *Euastroides*, since you suspect that it may have been used before, and since the specific name *euastroides* has been used in *Cosmarium*, *Micrasterias*, and *Tetmemorus*. *Ichthyodontum* (not *dentum*) is correctly formed from the Greek word 'odon' (tooth), so it is not a hybrid.

In one of your letters you asked about the weather in the Everglades during March. I think you will find it rather warm, with temperatures in the eighties. Yesterday and today in New Orleans the high was 76°, a pleasant change from the chilly weather we have had since Christmas. Only once this winter has the thermometer gone down to exactly 32° in the city, though the suburbs and outlying districts have had temperatures a few degrees lower, enough to kill the banana trees but other tropical plants do not seem to have been hurt.

With best regards,

Sincerely,

P.S. Doesn't every word necessarily exist and be in current use long before it gets into the dictionaries?

February 15, 1956

Dear Arthur:

Thanks you very much indeed for the highly informative letter, the map, and also for the interesting cover from Sachlan. Your letter, plus some other information I have been collecting has just about convinced me that a trip into the Everglades for Desmids would not be the most fruitful way to spend funds. I knew before, of course that much of the margin and the coastal areas would be hard water and brackish, but from incidental descriptions from travelers through there I had obtained the idea that within the park was higher ground, with hammocks and swamps, ponds, etc. which one might expect to be acid. I know from movies I have seen of the area that the biology of the place is intensely interesting and that it would be a paradise for study and collecting (especially photographs)--but on the by and large it does not seem to be a suitable place for desmid exploring, except by one who lives nearer than I. I shall give it a little more thought. I do feel that Florida may still have an interesting algal flora, but of course you have sampled the upper or central regions pretty well--and of course some of the earlier collectors have given us a pretty fair index of desmid species. What I want to do is to get into a few regions not yet studied so as to build up our N. A. check list to as near a complete one as we can get it. That plan you suggested is very appealing and it would be a real treat to get into the field with you. I have had in conference a chap who served in the Everglades during the war (on the survival program). He became quite familiar with the whole area and has given me some pointers on where and how to get into the Everglades. Well--we shall see. Of course another area not sampled very much in this country is the mid-south-west, and I suppose a trip through some of the midwest states toward the south would be in order. We have a few records from Arkansas, a few from Kansas and a few from Nebraska. In any case if I do decide to fly into the face of providence and make an expedition to the Everglades I shall certainly do so with you and we shall try to work out a plan to go together. If you feel like tackling the Everglades it should be easy to work out a schedule. The Detroit-New Orleans-Tampa route seems to be a very appropriate one.

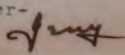
No afternoon mail today so the bulletins you are sending will probably arrive Monday. I shall be glad to see these and return them promptly.

The chances of getting the second volume of Kossinskaja's work seem remote but we can keep trying. I am glad to have her address. I hesitate to bother Ruzicka, but that would be a good and dependable way to get translations of the Russian bibliographic references.

I have to look into a determination I made of a *Cosmarium* for Richard Starr. He writes that Gronblad disagrees with my determination. I certainly gave the plant a good going over and felt certain in my own mind that I had a good name for the species. I really think it is a matter of interpretation of what variation belongs to this or to that very similar species. These miserable variants that show relationships to two differently named plants are always a pain anyway.

The 16-ton brick hit the other day and I have agreed to take over the AMS work--with, fortunately, my chief coming to my aid with a reduction in teaching load. I shall do my best to carry through.

Yes, the flu has left me--but left me further behind than ever. We have had a most ideal winter for colds, flu, pneumonia, etc. Last night we were slapped in the face with an 8-inch fall of snow and more predicted--so winter is well established now. I have snow tires so have not become stuck yet, but any time now I probably shall be. I traded cars a week or so ago--same make but a late 55 that was held over and which they let go at such a bargain that I 'fell.' It is more car than I should be driving--but I think economical in the long run. Best regards till later-



MICHIGAN STATE COLLEGE
EAST LANSING

Feb. 21, 1956

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

I have about a ~~40~~ dozen North Australia vials which you kindly sent me, including MA X-108 and MA X-109. The labels bear no collection data except: Coll. Gregson. Other MA numbers such as 100, 101, 102, 103, 501-510 are listed as sent by Ray Specht, although 108 and 109 do not appear on the same listing as the other numbers. Let me know if you would like to have these returned. They certainly are most interesting. I suppose you have everything in them pretty well catalogued.

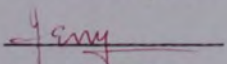
I like your new genus name very much indeed, especially because it is so very descriptive. I obviously do not know my Greek very well although I try to keep names checked up. If "odon" is tooth, then what does the {tum' do for the term. That Latinizes the term does it not, with a neuter ending? Of course the desmid student will know where the author takes Ichthy and will realize that the name does not mean 'fish tooth'; others may not but we cannot worry about that.

Those temperatures you mentioned are most appealing--especially this morning. I walked to school so that Tess could use the car today and everything I have become quite brittle.

The 16-tons began to arrive yesterday in the form of manuscripts for AMS Trans. so I shall not be bored from here on for the lack of anything to do.

I am glad you are still receiving such interesting samples from odd parts of the world. With these you are going to be able to make ~~me~~ more and more contributions to our knowledge of desmid distribution, and these ideas concerning groups of species (and genera) being found in continental 'districts' are going to be cleared.

With kind regards to you and Edith,


G. M. Prescott



Centennial

1855-1955

"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

MICHIGAN STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE
EAST LANSING

Feb. 21, 1956

DEPARTMENT OF BOTANY

Dear Arthur:

Many thanks for the interesting magazine numbers on the Everglades. The accounts and the pictures are certainly alluring. I wish I could think of a good excuse for going down there. I am still looking into the possibilities-- but unless I can get some assurance of there being some soft-water ponds or acid swamps there would be little use. Perhaps I should take off toward the southwest central part of the U.S.

I am holding the map you sent for a couple of days, and shall send it along the next time I write.

Muchas gracias-

Am mailing bulletins in
parcel post package.

J.

Feb 25 1956

Dear Jerry,

Thanks for the dope on N. Australian collections X-108 and 109. The name of the collector, Gregson, was sufficient to put me back on the track, and I now have the habitat locations and dates. In case you want to record them, X-108 came from a habitat "Red Lily to top landing Creek" (I don't quite understand this wording), and X-109 from Unawalerke Lagoon, both near Cenpelli in Arnhem Land. They were collected by R. G. Gregson on June 22nd and Sept 30 1954 respectively. Gregson has left the Mission at Cenpelli, and I am no longer in touch with him. I have done very little with any of the Australian material received after completion of our Arnhem Land paper; merely looked them over once and recorded some of the more striking novelties.

Last week I received a catalog from Asher & Co., Amsterdam, which listed a book that I take to be Kossinskaja's Vol. II though the description was in German. I ordered it immediately by airmail, and told them that if they had a second copy or could get one, to send it direct to you. The cost is about \$4.00. Of course it is uncertain if either of us will get the book, for these items are usually snapped up long before the catalogs reach this country.

Also last week I received the Bull. of the Phycological Society, with the list of phycological literature for 1954. This is a remarkable piece of work, and I am eagerly looking forward to the next installment which I hope will list the taxonomical works. I think that a lot of workers will be surprised to see the volume of research that is going on; I know that I was.

Grönbald has sent me a reprint of his paper on desmids collected by Hannah Crossdale and Dr. Moul in New England, and I suppose he has sent it to you also. A nice piece of work, though there will be differences of opinion about some of his identifications. For instance his *Euastrum everettense* is identical with the plant that you called *E. obesum* v. *crassum*, and I cannot reconcile it with *E. everettense* because of the several inconsistencies in Wolle's different views. Again his *Pleur. burmense* v. *extensum* is identical with the plant known in this country as *Pl. constrictum* v. *extensum*, and my arguments have failed to convince him that it cannot be related to *Pl. burmense* which has up to 19 undulations per semicell, while *Pl. constrictum* always has just four undulations. Well, these different opinions help to make life interesting.

How much territory do you include in "Desmids of N. America". Alaska, Canada, USA and Mexico, of course; but do you take in Panama, Central America, and the West Indies? I have material from some of these places, not yet worked up.

at

You may keep the Gulf road map; there are plenty more available ~~in~~ my filling station, and I know it practically by heart anyway. But I would like you to return the map of the Everglades Natl. Park when you have finished with it. You can get another copy by writing to the Park Hdqr. at Homestead, Fla.

If you are looking for soft-water ponds and acid swamps, how about the Okefenokee Swamp and the southeastern corners of S. Carolina and Georgia, between Charleston, Savannah, Brunswick and Waycross. I have been over this route once and made some collections which were quite good in desmids, though I found only one or two novelties, and there are plenty of habitats; the desmid flora is pretty much like that of northern Florida. There is no telling what may be found in the Okefenokee Swamp.

The only investigation that I know of is described in a paper by W.C. Frohne, 1942, Reconnaissance of Anopheline Larval Habitats and characteristic Desmids of the Okefenokee Swamp. Publ. Health Reports, 57:33, 1209-1217. This lists a number of more or less well-known desmids, but Frohne wrote in a letter that he also had quite a number that were unidentified. I tried to get him to send the material to you, but heard nothing more from him. He has another paper, 1939, A new method of classifying waters for Malaria studies. Ibid. 54:30, 1363-1387, listing desmids from the coastal regions of Georgia and S. Carolina.

I have tried several times to reach the southern border of the Okefenokee Swamp in my car, from US 90, but without much luck because of poor roads and rain (it seems to rain every time I get over to Jacksonville). To get into the swamp itself means hiring a boat and a guide, not too expensive though I have forgotten how much. The swamp can be entered on the north from Waycross, Ga., where the US Wildlife and Fisheries has an office; or on the west from Fargo, Ga., or rather from a little town named Edith, close to Fargo, not shown on some maps. The swamp water is said to be strongly acid, perhaps down as low as pH 4, and I have seen pictures that show an abundance of squatic vegetation.

If you want to go farther afield, there is the western tip of Cuba, in Pinar del Rio Province. This is where I tried to go some years ago when Edith and I were hurt in an auto accident. There are two localities, one just south of the town of Pinar del Rio, and the other between the towns of Guané, Cortés, Babineyes, and La Fe, shown on an insert of Cuba on the Florida road map that I sent you. I have a better road map of Cuba put out by the Standard Oil Co. In the regions mentioned the terrain is flat, with sandy soil and numerous lagoons, and the types of aquatic plants growing in them indicate that the water should be very favorable for desmids. I got the information from two excellent books "Itinéraires botaniques dans l'île de Cuba", by Prere Marie-Victorin and Prere Leon, published by the Institut Botanique in Montreal. If they are not in your University Library, Brunel can get them for you, or I can lend you my copies. You can fly from New Orleans to Havana in 2 1/2 hours, fare about \$120 round trip six years ago. Pinar del Rio is about 110 miles from Havana, say about 3 or 4 hours by bus. Or with your knowledge of Spanish you could hire a car in Havana and drive yourself. If you should consider going there I can give you additional information that would be helpful.

There is another very large swamp on the south coast of Cuba, Gran Cienaga de Zapata, which apparently is accessible only by boat, and judging from the account in the books mentioned, and the geology of Cuba, I should judge that it is not favorable for desmids. When I flew from Camaguey, Cuba, to Miami, we passed over some large swampy areas near the northern coast of Cuba that looked from the air as if they might be interesting, but they would be difficult to reach since there seem to be no roads in the region.

If I were younger, and had more money, and knew some Spanish, I would like very much to try some interesting regions in Colombia, Venezuela, and Brazil, though the latter would require Portuguese instead of Spanish. However, I think I have enough desmids on hand now to ~~xxx~~ keep me busy for the rest of my life.

Best regards and good wishes. from

Glad to hear that you are to be the new editor of Trans. Am. Microsc. Soc., but also I am sorry for you, for its going to be a troublesome and thankless job.

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

March 4, 1956

Dear Arthur:

Thanks very much for sending for the Kossinskaja work. I received this catalogue also (from Asher & Co.) but decided that the item was the first vol.--but I hope I was wrong and I hope we hear from the dealers.

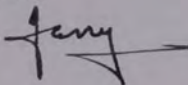
Yes, there is a surprising amount of algal work being done. I did not check the list against my file all the way--but I was interested in noting how many, many more references I have than appeared in the list. I shall be looking forward for the second installment when Silva lists the ecological and taxonomic papers.

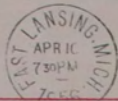
No, I have not received Grönblad's paper. I hope he remembers me. Perhaps he thinks it not worth while. That reminds me, I have not yet checked out the question Grönblad raised over my determination of Starr's Cosmarium. Must do that right pronto-- just where to find the time, I do not know. Things will not be quite so crowded after I have the AMS material all filed and arranged for work. There were 11 boxes of stuff to unsort and rearrange, including a dozen or so manuscripts awaiting review and action---all of them requiring letters to be written. I shall be looking for those species about which you raised questions. I agree with you on the Pleurotaenium.

As I see it--the resume which we want to make will include North America, north of Central America (Mexico to Alaska and the Canadian arctic-- certainly enough territory to result in a very substantial list and enough of the flora to make a summary that will be useful for some time.

I shall retrace the Everglades map. I would like to make use of my vacation time to do a little field work--but I do not know quite how to do it during the spring of the year without going south. Okefenokee offers some fine possibilities. I have used Rohnes papers. They prove that Georgia is very productive--as do the early papers from that area. I would like a trip to Cuba or Puerto Rico of course--but the N. A. continent will have to be taken care of first. I would like to go to Venezuela with you. Between us we could scare up enough Spanish--and the cost would not be prohibitive. Perhaps we can get a grant that would take us to S. A. Worth thinking about anyway.

Until later--best regards,





THIS SIDE OF CARD IS FOR ADDRESS

Mr. A. M. Scott
2824 Dante Street
New Orleans
Louisiana

Dear Arthur: Meant to reply to you question on silvichemical. An interesting word. Have been going around in parabolas lately. No, the word does not exist. Probably used by a chemical company-the Rayonier. It might be that such a term will come to have so much use as to get into the dictionary. It is like some of the coined words that the ecologists dream up and after a few years get used by enough ecologists in so many books that the term eventually is recognized- and when an ecologist is called upon to admit words for a dictionary the term or terms get included. Of course that is the way all words (mostly) ever got into any dictionary I suppose. What are you doing these days--microscope work. I am pecking along at odds and ends. Bill W. is still doing N. A. desmids on the side and Mrs. U. is still working on the check list. We almost made a call on you over Easter-but rush of ms. business here prevented it. Regards to all-

4-10-56

fung

May 24 1956

Dear Jerry,

Perhaps its just as well that you didn't come down here for Easter. At that time I was right in the middle of a big job of drawing and trying to complete it, for a certain date. I did not make the deadline, but was able to send 21 plates with descriptions, an introduction, and a long list of habitats, to Finland in time for a meeting of the Soc. Sci. Fennica on May 14th. Yesterday I finished the drawing, 37 plates in all, more than 150 new taxa, and in many cases several illustrations of each to show the range of variation. I'm glad it is completed before our hot weather starts about the end of this month, though there is still a little more typing to be done.

Had a letter from Sachlan a few days ago, saying that the reprints of our paper on *St. Wildemani* are on the way; we ought to get them in a couple of weeks. Also had a letter from the editor of *Reinwardtia* acknowledging the Ms. of our new paper on *Ichthyodontum Sachlanii*, so perhaps this will be printed this year. Still no more news about our North Australian paper, now 3½ years old. The last I heard was that the printer was supposed to submit proofs of the botanical volume this summer

In the last Bulletin of the Phycological Soc. there are a couple of items regarding desmids that look interesting, and I wish you would tell me if you have seen them and if you have the addresses of the authors, or know how I can get reprints. They are:

Gonzales, E.A. and S.G. Bharati. (Abstr.) *Euastrrella*, a new genus in the family Desmidiaceae. Proc. Indian Sc. Congr. 40(3):66. (nomen nudum).

Cholnoky, B.J. Ein Beitrag zur Kenntnis der Algenflora des Mogolflusses in Nordost-Transvaal. Österr. Bot. Zeitschr. 101(1/2):118-139. (*Euastrum*, *Holacanthum*, *Staurastrum*, sp.nov.).

The first one may be important to us, since there is always the faint possibility that *Euastrrella* gen. nov. might be identical with our *Ichthyodontum*. I don't know what (nomen nudum) signifies; I cannot trace this name as having been used before.

If either you or Dr. Silva has these papers I would be glad to pay for microfilms which I can enlarge myself.

In the same list of literature there is a paper by me, Some new and little-known desmids from North Australia and Indonesia. I have never seen this in print, but it is merely a list of new and rare species to accompany the set of slides that I showed you in East Lansing. Bourrelly wrote me that the slides were never shown because of lack of time, but he might have had the courtesy to send me a copy of the Report.

No doubt Grönblad has sent or will send a copy of the enclosed paper on *St. bibrachiatum*, but you can cut it up for your iconograph. I did not want my name to appear as co-author, for all I did was to make some camera lucida sketches of his Italian specimens, and furnish some of my own drawings of Mississippi specimens. What do you think of his idea of defining this species as consisting of three seemingly different forms? The usual way would be to name two of them as varieties.

Talking about new words, here are some peculiar ones that I have run across in my recent reading: colchiploidy, vicariad, vicariism, thalassachorous, monotelic, polytelic. Try your biological dictionary on these; I doubt if you will find any of them.

A week ago I received three papers on desmids from Kossinakaja, in exchange for some that I sent her. One of them is the first part of her Flora Plantarum Cryptogamarum USSR, so I now have two copies. If you know anyone who needs it I will gladly send it. I wish she had sent the second part of this monograph. I bought a Russian dictionary thinking I might be able to translate some of her comments, but their alphabet is so crazy that it takes me 15 minutes even to find the word in the dictionary.

Here is the title of a botanical paper in Finnish: Muutamia yksityistapauksia kasvillisuuden kehittämisestä maankohoamisalueella. How would like to have to read and write that language? No, I can't tell you what it means, but apparently it deals with aquatic macrophytes, judging from the botanical names.

How is the editorial job coming along? You have my best wishes for success and I think you will need them. It is not a job that I should care for, even if I were able to undertake such a thing.

Best regards from Edith and myself to you and Tess.

Sincerely,

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

June 10, 1956

Dear Arthur:

Many thanks for your letter and for the interesting reprint. The recent flurry I have been in has kept me from writing letters that I owe, so please forgive this delay. I surely was glad to have your and Grönblad's paper. I shall have the plates photostated. As the title suggests, this species (and study) does serve as an excellent example of variability in demids and serves as a reminder of what we all know (and fear) that many, many species may characteristically possess equal ability to vary. At the same time, I am confirmed to the idea that, as you state, we shall have to go on 'pigeon-holing species and variations among the desmids, taking them out and resorting as extensive field and laboratory observations dictate for reshuffling. A variation to me is worthy of a variety name when it can be demonstrated, or when there is only reasonable inference, that the variation 'breeds' true and maintains itself throughout several generations (at least one new generation). When one finds all manner of forms within a single collection one may suspect incidental and common 'variability' in the species. But even then, who can tell whether some of the variants are not true and will breed true in nature. If a variant of a species constantly appears in a particular region of the world and maintains that variation, one can only consider the desirability of attaching a variety name to the form. Personally, I think taxonomy is, in one way at least, simplified, by attaching varietal names to definite expressions of a species for the sake of writing and talking about them in language and in references that all can understand. One may or may not, in this case, be talking and writing about variations, or about true varieties, but at least one's correspondent knows exactly what form is in mind. In other words, it does not bother me to continue making reference to var. trilobum, even though such a variety may be only a non-breeding variation of the typical. As soon as there is evidence that the 'variety' is not a true-breeder, then the species description and concept can be amended and we can go on our way, dropping the var. trilobum name altogether.

In reference to the papers you mentioned, Gonzalves, et al; Cholnoky are over at the photostat department. They should be back shortly and I shall send them to you (first I have to copy out some plate descriptions). The Euastriella is only slightly remindful of Ichthyodontum. It is a apically tri-lobed affair as I recall.

Yes, I think the reference to you paper was from an abstract submitted by Bourrelly for all the papers scheduled at the meeting. Glad to learn that some progress is being made on the south-Pacific algal papers.

The geneticist is showering us with as many new terms as are the ecologists—probably more so. No, the words you listed certainly have not made their official appearance yet, as far as I can determine.

I received books from Kossinskaja, but not her part I⁴ either. I wrote to ask whether she could furnish me with a copy, since the book Co. to which I wrote, reported that it was completely out of print. Do not see how. I certainly



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

If I know of anyone who can use extra copies of Part I I shall certainly let you know. I have two copies also, now.

The only way to comprehend Finnish is to be born a Finn and grow up with it. Almost as tongue-tangling as Welch and the long Welch words.

The editorial work takes up every spare moment--and then some. I think I can get the job licked when I can find a decent secretary to help me out with the mountainous correspondence.

Good thing you finished all those plates. What a monumental task! Hot weather is probably very much with you now--as it is here finally. No snow or rain for three straight days and I am having to irrigate my dandelions. Tess is all confused over leaving and is working hard around the house. We take off on Sat. June 16 and shall arrive out there 18 or 19th. Address is, as you may recall: Univ. Montana Biol. Station, Big Fork, Montana. I may have to send the papers on desmids to you from out there.

Cordially and with best wishes to Edith.-

Jenny
G. W. Prescott

Dear Arthur:

Am finally getting settled down to a little work on the desmids of N. A. Also I am finishing that long work-out on the synonymy of desmid genera for the Index Genericum for the Inter. Bot. Congr. I find that I arrived out here without a copy of your Amscottia. Do you have an extra reprint that you could lend me for a short time? I would appreciate it very much. I now have the genera pretty well lined out, but am having some trouble in determining the type species of each genus (in some cases that is). They are royally mixed up.

Hope you are not suffering from the heat. It is delightfully cool and invigorating here and to make matters more interesting the season has been just right to provide a most luxuriant growth of algae of all kinds and we are having a regular hay-day. Some ponds are just soupy with Volvox spp.

After the station closes here I hope to spend a little time in central Washington in a region little studied botanically where there are numerous 'pot-hole' ponds and pools. I thought that the desmid situation should be investigated.

Have heard from Indonesia that one of the papers is in print and that separates are on the way. I shall try to get at least one copy sent out from East Lansing.

Please give our best regards to Edith--and to yourself.
Cordially, G. W.

G. W. Prescott
Univ. Montana Biol. Station
Big Fork, Montana

6-26-56

July 2 1956

Dear Jerry,

Here's another copy of the Amscottia paper which you may keep; I have more of them on hand. Can you include the new genus Ichthyodontum Scott & Prescott, or at least leave space to insert it? I hope it may be published late this year in Reinwardtia; the editor wrote me a couple of months ago that he would send the proof "immediately", but it has not yet come to hand.

I have finally gotten back to work on Sachlan's Indonesian stuff, and hope I can now stay with it until it is finished. But I am having trouble because there are many small desmids, principally Cosmaria, that I cannot draw because the ornament that is obviously present cannot be distinguished because of the opaque cell contents, and no empty specimens are to be found. Just now I have some material soaking in sodium hypochlorite solution to which has been added hydrogen peroxide, which usually dissolves the chloroplast, but I have not learned to control the reaction, so it's a hit or miss proposition. In some cases the amount of material available is too small to take a chance on this experimentation, for a couple of years ago I ruined one whole sample by using too strong chemicals.

Our hot weather has been on us for a month, 92 to 96° during the day, but so far the nights have been reasonably cool. We start our attic fan as the sun goes down about 6.30 pm, and run it until about 11.30, by which time it is cool enough to sleep without it. But the nights will get hotter from now until the end of September, and frequently we have to run the fan on low speed all night. Many of our friends have their houses, or at least some rooms, air-conditioned, but the first cost and also the monthly bill for electricity is too much for me, though perhaps I shall have to come to it.

The reprints of our St. Wildemani paper were mailed from Bogor shortly before April 19th, so Sachlan said, but have not yet arrived after ten weeks. Surface mail from Indonesia usually takes about 8 weeks; I hope nothing has happened to them.

Received the copy of your paper in Botanical Review on the literature on ecology and life histories of the algae. Another very valuable work for those who are interested in that phase, and it must have been a very tedious job to tabulate and segregate the papers into the different classes. The mere typing of 1001 references is frightening to me; that's a job I don't like.

Hannah has been at Woods Hole, but will return home at the end of this week, and will then send me the Latin diagnoses for a few new taxa in the paper by Krieger & Scott on Peruvian desmids, which I have at last finished.

Best regards to you and Tess from Edith and myself.

Sincerely,

July 27, 1956

Dear Arthur:

I was glad to receive today proof (I suppose) of the paper on Ichthyodontum. There was not letter of directions with the proof; so I do not know but that you too have a copy (and probably you do). I am inclosing the galley with such errors marked as I have found. It seems to be very clean copy. It is gratifying to see this paper on such a curious alga nearing the publication stage. Since you have the Ms. the burden of reading proof falls on you. The galley, by the way in case you do not have a copy) was from: Herbarium Bogoriense, Kebun Raya Indonesia, Bogor, (Java), Indonesia- J. van Borssum Waalkes.

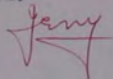
Life goes on here in a great flurry. How are things with you? The early summer rains are gone and forgotten and we are enjoying typical midsummer weather of the Rockies--warmish by day--cool by night. Hope you are having some relief from the heat (but I imagine New Orleans is keeping up to its usual standard). Any chance you will go to Storrs? I shall be there for three days (Monday thru Wed.) then will have to return to Oregon to pick up the car and Tess.

Perhaps I told you that I am planning on going over into central Washington to visit some curious pot-hole ponds as a survey of possible good desmid habitats for our North American summary-- a region never before studied phycologically. I doubt that it is a good region from what I can learn of the geology of the area.

Have added about 40 papers to the iconograph this summer--filling in some gaps and adding some (many) new species from Japan, and from Europe. This seems to be an endless job. I wish people would stop putting out papers until I can catch up.

Best regards to you and Edith.

G. W. Prescott
Univ. Montana Biol. Station
Big Fork, Montana



Please let me know when it is time to order reprints.

July 30 1956

Dear Jerry,

Thanks for sending the proof. I have corrected it and returned it to the Herbarium Bogoriense today. There were a good many more errors in addition to those that you caught. I have ordered 200 reprints for you.

About a week ago I received the reprints of our first Indonesian paper, which I had almost given up for lost, since they took a little more than three months in transit. No doubt your package is waiting for you at Lansing. Normally surface mail from Indonesia takes about 7 to 8 weeks, so the only reason I can imagine for the extra long time is that perhaps the packages missed one steamer and had to wait several weeks for the next one.

The weather here has not been too bad so far, highest about 94, and the nights have been cool, so that I have had to cover with a sheet nearly every night. No doubt you are sleeping under a couple of blankets! In England this time last year we had to have hot-water bottles in the bed to warm our feet, in addition to two blankets and a down comforter.

No, I am not going to Storr's; too far away and too expensive. Can't you get another Convention down South? The one at Gainesville seems to have been very successful. I wish you luck with your exploring trip to Washington, but the words 'pot-hole ponds' don't sound very promising, unless they are in sandstone. I should imagine that probably they are in a limestone formation.

For the last few weeks I have been working on Sachlan's material, and I find that there is still a lot to be done. Some of the samples are very rich, and the longer you search the more species you find; there seems to be no end. Just now I am puzzling over four tiny *Cosmaria*, somewhat similar to *C. tinctum* and of the same brown color. All four look very much alike, though I can see some differences, and I cannot make up my mind if they all belong to one species or not. I even dug out the 90x oil immersion objective, which I very seldom use, but cannot see much more with it than with the 60x dry apochromat. And in the larger desmids there are some with very complicated structures that are very difficult to distinguish, and even more difficult to draw intelligibly. In the *St. cyclacanthum* group there are half-a-dozen different forms that are going to give you a lot of trouble when you get them for determination.

So you would like me to stop putting out new species, would you? But that's what I live on. I get a big kick out of finding a new desmid that has never been seen before by human eyes since it was created a few million years ago, but I should not have the patience to fool around with those obscurely marked European *Cosmaria* that seem to be Ruzicka's special delight.

Did you get copies of the two desmid papers that you ordered from the photostat dept. before you left Lansing? If you did, please don't forget to send them to me after you have entered them in your iconothèque.

Best regards to you and Tess from Edith and myself.

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

Aug. 2, 1956

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Glad to have your letter of July 30. Wish you had a big slug of our cool weather. We had to turn on the furnace in the lab. this morning--it is that cool.

When the present large group of photostats have been entered in the iconograph I am going to set about breaking down the big genera into the cell types. Then we can gather together all the 'similar' forms and go after the job of checking out synonymy. This is going to be a big task and I wish you or Hannah were going to be on hand to help. Bill Wade may help a little if his wife will let him off one night a week (but it will need a lot of constant work).

No, indeed, I certainly do not want you to think about ceasing to turn out new species (nor anyone else). I was just facetiously expressing a desire to get caught up with the iconograph--something which is impossible, of course, because it has to keep growing. But it does seem as though soon I should have 100% of all the things described prior to 1940. I think we now have a large per cent. of the plants described since then--but as I was complaining workers keep turning out papers so rapidly and in so many distant lands that it is a difficult project, keeping up with them.

Yes, I too am pessimistic about there being many desmids in the pot-holes of Washington. But it is in the highly glaciated areas that we find our best desmids in the north latitudes. So I think I shall check, anyway. Best regards-

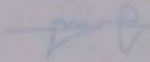
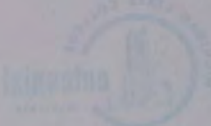
Gray



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

P.S. Please help me out with my memory. What are the papers which I had photostated to which you refer? I have quite a bundle of papers here which have been photostated and which we have been mounting. I cannot recall which ones were sent to me--and I hope I have them here so that I can return them to you pronto. JMP

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HUNT INSTITUTE FOR BOTANICAL DOCUMENTATION


Aug 6 1956

Dear Jerry,

Sure, I knew you were kidding about not putting out any more papers with new desmid taxa. But honest to goodness, the novelties are what has kept up my interest. Perhaps you may remember that I first learned of the existence of desmids about 1920, but found only a few in the immediate vicinity of New Orleans, and rather uninteresting ones at that, so I dropped the search and went on to other hobbies. It was not until about 1937 or 1938 that by pure chance I made a collection near Covington, La., in a highly-acid-soil region, and saw for the first time some of the really beautiful *Micrasterias*. And I haven't stopped since then!

The two papers of which you promised me photostats are:

Gonzalves, E.A., and S.G. Bharati. *Euastrionella*, a new genus in the family Desmidiaceae. Proc. Indian Sc. Congr. 40(3):166.

Cholnoky, B.J. Ein Beitrag zur Kenntniss der Algenflora des Mogolflusses in Nord-ost Transvaal. Oesterr. Bot. Zeitschr. 101(1/2):118-139.

If you have any other papers or photocopies that you can spare, with new desmid taxa, particularly tropical or subtropical, I should be grateful for them.

Just received a postcard from Finland, signed by Teiling, Grönblad, Nygaard, Cedercantz, Bourrelly, and Dick Starr, while they were in Helsingfors at the Limnological Congress. Teiling, Starr, and a Mr. Alan Brook from Scotland (do you know him?) were going to visit Grönblad at Karis and spend a day or two with him.

Ray Specht, of Adelaide, has been in this country since January on a Carnegie grant, and wrote me recently that he will pass through N.O. on his way east, on Sept. 2 and 3. He is the chap who sent us all that wonderful stuff from Arnhem Land in North Australia, and a number of others later from the Darwin region.

There's no chance of my being able to go to Lansing this year, or even next, I fear. But if there is anything I can do from this end, to help with your sorting out process, I shall be only too glad to do whatever I can. I am not so rushed now, since I got rid of the paper by Grönblad and myself on new desmids from southeastern USA.

Regards from



AIR MAIL-POSTAL CARD

Mr. A. M. Scott
2824 Dante Street
New Orleans
Louisiana

Dear Arthur: As soon as I get back I shall check on the copies of the papers about which you wrote. I do not seem to have brought copies, although I think they were made with others.

Sent you the other day a sample of a Glacier Park Sphagnum bog collection--some of the squeezings from the sludge. I thought you might like to see what a northern bog had to offer. I went through only a few drops and found a fairly good number of species--mostly garden varieties, some very nice. There very well might be some interesting items lurking in the debris. I keep looking for another station for *Closterium spinosum*.

Any mail from now on would be better sent to the E. L. address. Cordially-

Fanny

8-11-56

Fish Culture Research Project,
Batu Berendam,
Malacca,
Federation of Malaya.
August 27th 1956

Dear Mr. Scott, I must apologize for the very long delay. Through five changes of address (& I am still not yet in my house) I mislaid your address, which for some reason I omitted to put in my address book. Finally I managed to get it from Dr. Gornblad.

Although I have taken many samples from the pond in the Botanic Gardens, Singapore, I have not yet seen your Cladonium cuspidatum, although there are many other desmids.

The University of Malaya has a lake in its grounds, & the land once formed part of the Botanic Gardens. Do you know if this might be the pond referred to? So far I have taken two samples from the lake, & the flora is different from that in the pond in the Botanic Gardens - desmids are very common & are different species, but I still have not seen your Cladonium.

Here in Malacca I have found a large number of desmids, which are busy dividing (but not shiffling as before but in one ortho. 3 ways). Some may possibly be new forms or species. One more specimen of Pennatacinium.

Dr. Gornblad thinks my be P. spumellum, but I have no paper on this, & it has turned up only 3 times. I shall send a tracing of my drawing to Dr. Gornblad for identification. Books are still the problem, although I have parts of Rabenhorst, one monograph by the Wests, a few others & a number of papers.

Our laboratories are still under construction, but will be very fine when they are completed in November. My house I expect to be ready in October. Meanwhile I have been working in a rice-warehouse (here called "godowns") & as I brought my microscope out with me I have been able to do quite a bit of preliminary work on the algae. The fish ponds, of which there will be 166 covering 92 acres, are well on the way to completion & the whole scheme will



Air Mail

509

1958

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

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Sender's name and address: G.A. PROUSE,

ELSH CULTURE RESEARCH PROJECT,
BATU BERENDAH, MALACCA,
FEDERATION OF MALAYA.

AN AIR LETTER SHOULD NOT CONTAIN ANY
ENCLOSURE; IF IT DOES IT WILL BE SURCHARGED
OR SENT BY ORDINARY MAIL.

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be most impressive. Staffing the place will be problematic
& meanwhile there are only two of us working here. For
political reasons, quite unfortunatly, it is
not an attractive proposition to scientists from other countries.
In actual fact our project is entirely financed by the
Colonial Development & Welfare Fund, & not responsible to
the local government for its funds. It says much for
the progress of the world that such large sums of
money can be spent entirely for the benefit of others,
without any question of reciprocity the money spent.

I hope you & your wife are enjoying
good health, & that the desmids are proving as interesting
as ever.

I am,
Yours sincerely,
Gerald A. Prouse.

P.S. When I get time I shall send you desired samples

Sept 7 1956

Dear Jerry,

Thanks for the sample from Glacier Natl. Park, the first I have seen from any of the western States. There were several features about the material:

First. The rather small quantity of desmids from what evidently was an acid and favorable habitat, but perhaps I am spoiled by the extremely rich material that I am used to working with, both from USA and other parts of the world.

Second. I suppose that the Waterton Lakes are at a considerable elevation, maybe several thousand feet, so that some alpine species of desmids might have been expected. Apparently there are none, and in fact all the desmids seem to be well-known species; the collection might well have come from of my swamp habitats in Florida.

Third. The unusual distribution of the genera. I saw 5 species of *Micrasterias*, but only 3 of *Staurastrum*, 3 or 4 *Euastrum*, and a dozen or more *Cosmarium*. The excess of *Micrasterias* is astonishing, and once more bears out your remark of several years ago, that where there is one species of *Micrasterias* there are usually more. Whelden doubted this, but I can confirm it from many other countries.

I have had letters from Teiling and Grönblad reporting on the Limnological Congress at Helsinki. There seems to have been only paper on desmids, by Teiling, who reported that *St. manfeldtii* is developing by degrees into *St. planonicum* and further into *St. luetkemulleri*. According to Grönblad this has no foundation in reality.

Grönblad has had a letter from Mrs. Krieger, saying that a Dr. Gerloff, who is working at the Botanical Institute at Dahlem, is going to finish Krieger's Desmid-Flora, or is trying to do so. Seemingly he has published nothing on desmids, and it seems strange that such a difficult task should be entrusted to a non-specialist. But several specialists such as Messikommer, Skuja, and Grönblad have declined to undertake the job for various good reasons. Dahlem is in the Western zone of Berlin, so apparently Krieger's son has succeeded in getting his father's notes and drawings out of Eastern Germany, which he wrote me 18 months ago would be very difficult. If you are corresponding with Prof. Thienemann in Germany you might try to find out something about Gerloff.

What do you know about Wittrock & Nordstedt's exsiccatae? Do you have any of them, or if the Farlow Herbarium has them? I am particularly interested in those from Brazil, for I am working on a very curious little desmid that superficially corresponds with *Spondylosium desmidiforme* (Borge) G.S. West, the "forma tenuior" reported by Borge in his Sao Paulo paper of 1918. It exhibits asymmetry of two different degrees in different cells, and I believe both kinds of cell occur in the same filament but have not yet been able to confirm this because of the strongly twisted filaments. The asymmetry can only be seen properly in end view of isolated cells, and since the asymmetry is quite small it is concealed in front view of the filament by the progressive tilting of adjacent cells.

With best regards to you and Tess from Edith and myself,

Sincerely,

MICHIGAN STATE COLLEGE
EAST LANSING

Oct. 26, 1956

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Friday has come again and with it a slight opportunity to get caught up on correspondence. I wish we had week-ends 6 days long.

It does seem a little strange (to us at least) that Krieger's work should be turned over to Chlamydomonas Gerloff. I have written to Gerloff to see if I can learn what he has done or is going to do and just what the status is for the genera *Cosmarium* and *Staurastrum*. I shall let you know what (if anything) I learn.

Inclosed is a skeletal outline of our project as Bill Wade and I visualize it. There seems to be little or no opportunity for you and Hannah and I to get together in any one place to go over our project. Hannah and I did have an idea that we would try to hold a joint meeting in some place such as Cornell (Ithaca) or Cincinnati, hoping that we could all travel part of the distance. This would be an advantageous expenditure of funds--but on the other hand perhaps we can use the money to other advantages and save it by trying to work things out via correspondence. I would appreciate it if you would look over this brief outline and make notations and additions and return it to me at your convenience.

I have none of the specimens of Wittrock & Nordstedt--only a few of their type descriptions. I wish that we did have their (W & N) collections. I think they surely must be at Farlow or at N. Y. Botanical Garden. To me, and without having actually seen specimens, *Spondylosium desmidiiforme* is a better *Desmidium* than is is a *Spondylosium*. I shall certainly be interested in knowing what your decision is. The asymmetry in *Spondylosium* shows up in at least one other species (cannot recall the name now). This is another filamentous genus which needs a good 'going over.'

I certainly agree with you on the distribution of *Micrasterias*. There seems to me to be a 'selection' of habitats by this genus. Of course this might be said true of many other genera. Where one finds *Closterium* there are always several species (more than one certainly); and I think it is true for *Pleurotaenium* and *Triploceras*. In my collections, the appearance of *Triploceras* is nearly always a signal that there are going to be some fine, large species of *Euastrum* and *Micrasterias*.

Must get on to some other things, although I wish I could talk with you a long while, both on shop topics and others. Please give our kind regards to Edith.

Cordially-

Jerry



"IT IS FOR US THE LIVING . . . TO BE DEDICATED HERE TO THE UNFINISHED WORK . . ."

LINCOLN

SEWERAGE AND WATER BOARD OF NEW ORLEANS, LA.

Typical mineral analysis of Mississippi River Water before and after softening and purification. All values expressed in parts per million unless otherwise indicated.

	MISSISSIPPI RIVER WATER			TREATED WATER		
	MAX.	MIN.	AVG.	MAX.	MIN.	AVG.
pH	8.50	7.91	8.06	10.57	9.28	10.02
Color						5
Dissolved Solids	365	136	247	272	97	181
Suspended Solids	1500	12	467	1.4	0	.05
Turbidity	1770	55	535	1.2	0	.1
Carbon Dioxide CO ₂	5.0	1.0	3.3	0	0	0
Silica SiO ₂	8.9	1.6	6.0	10.5	3.3	6.3
Insoluble			.8			.3
Aluminum Al ₂ O ₃			1.44			.53
Iron Fe ₂ O ₃			.06			.05
Calcium Ca	54.4	27.0	39.3	26.2	14.5	19.0
Magnesium Mg	17.1	4.3	9.8	14.7	3.0	7.2
Sodium & Potassium Na			16			16
Chloride Cl	62	8	25	65	10	26
Suphate SO ₄	82.3	22.0	45.4	81.0	22.0	46.9
Carbonate CO ₃	0	0	0	30	12	19
Bicarbonate HCO ₃	165	74	116	32	0	4
Fluorine F			.20			.20
Nitrogen as						
Ammonia Nitrogen	.066	.004	.024	.234	.125	.166
Albumenoid Nitrogen	.622	.202	.440	.168	.088	.132
Alkalinity as CaCO ₃						
Total	147	55	100	74	24	36
Carbonate	0	0	0	50	20	32
Bicarbonate	135	61	95	26	0	3
Hardness as CaCO ₃						
Total	205	84	139	109	53	78
Non-Carbonate	75	14	40	77	19	42

Nov 2 1956

Dear Jerry,

Rather to my surprise, Dr. Lamb at Farlow sent me on loan for a month the three volumes of Wittrock & Nordstedt's Exsiccatae that I had requested.

I have examined material from the three collections referred to by Borge as containing Spond. desmidiiforme, Nos. 539, 551 and 1270. In one of them I could find no specimens (Borge found one). In the second I found one short filament of 5 cells, identifiable, but attached to a mass of debris from which I could not dislodge it. The third, #1270, contained numerous filaments, all badly distorted, but I found two cells adhering together and was able to get the end view that is necessary. It proved to be asymmetrical, and identical with my specimens from Brazil.

The plant was originally described, as Sphaerosozma desmidiiforme, from another form that is about 50% wider than Borge's and my plants, and as the original form is not contained in any of the exsiccatae it is apparently impossible to determine whether it exhibits the asymmetry. West & West later transferred it to Spondylosium, no doubt because it lacks the apical granules of Sphaerosozma. I believe, as you do, that it is closer to Desmidium, because of the asymmetry which is quite common in Desmidium, and also because the central part of the apical surface which contacts the adjacent cell is slightly raised, also a characteristic of Desmidium. But it is one of those borderline cases between two genera, on which there may be different opinions.

My experience with Triploceras is the same as yours; it is always accompanied by many other desmids. Yet Nielsen, from Florida, listed *Tr. verticillatum* as the only desmid in a certain collection, which however, contained many other algae. The *Triploceras* was identified by Drouet; surely he must know at least some other desmids! In my USA material *Tr. gracile* and *Tr. verticillatum* usually are found together; I have very seldom seen one without the other. This is not the case in Indonesian material, in which *gracile* is common, but *verticillatum* apparently does not occur.

I am writing another letter concerning the outline of a program for the Synopsis of N. American Desmidiaceae, since you will no doubt want to file it separately.

Sincerely,

Nov 2 1956

Dear Jerry,

Your outline of a project for the Synopsis of N. American Desmidiaceae looks like business. You asked that I return it with comments and additions, but I would like to keep it, if you don't mind. Anyway I could not write all my comments on that sheet. Your program seems to me to be complete, and I don't know that I can offer any additions.

I think it would be an excellent thing if all four of us could get together a little later on, discuss the program in general and in details, and make notes as to our own individual parts in the project. By far the most suitable place would be your office, and as to expense, it would cost no more for Hannah and I to go to East Lansing than it would for four of us to meet in Cincinnati or Ithaca. I don't know how Hannah is fixed financially, but I could pay my own expenses, though I should have not the slightest objection if part or all of them could be refunded from the grant. Probably cold weather is now starting in Michigan, which I don't like as you know, so from my viewpoint it would be better if the meeting could be deferred until next Spring or Summer. Also the meeting place should be one where I should have little walking to do, for my legs are going back on me. After walking 3 or 4 blocks I get a pain in the muscles of my calves, and after 6 blocks it becomes severe; and that is on level ground so hill-climbing it tabu.

Here are comments on the various items in your outline:

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I. A. Field collections. It must be borne in mind that ever since I learned how to distinguish good desmid habitats from poor ones, I have concentrated on the favorable localities, because they offered the largest return for the time and money that I could spend in collecting. So the less favorable localities have been neglected.

TEXAS. I have 3 collections from one place, some 50 miles SW of Houston, with not many desmids. There seem to be no good desmid places along the coast from Louisiana down to Corpus Christi, nor in what little I have seen in the rest of the State.

LOUISIANA. I have covered the southern part of the State fairly well, and especially St. Tammany Parish, just north of Lake Pontchartrain, which has the most acid soil and surface water of any part of Louisiana, and is very rich in desmids. The remainder of the State is not very favorable, but I have some scattered collections from various places, most of them not particularly interesting.

MISSISSIPPI. The coastal plain, some ~~in~~ 25 or 30 miles wide, along the Gulf of Mexico has been well covered, and I have scattered gatherings from the central and northern portions.

ALABAMA. A few collections from the coastal strip. I have crossed the central and northern part of the State in two directions, but found nothing worth while so have not been back there.

FLORIDA. This is a desmid paradise, perhaps the richest part of the U.S. I have made 12 trips there, spending from 3 to 10 days in the State each time, and travelling nearly all of the main highways and many of the secondary ones. I can detect a distinct difference in the desmid-flora of the southern part

of Florida from that of the northern part, perhaps south of Tampa.

GEORGIA. A dozen collections from the southeastern corner of the State, where there are many favorable habitats, but it is too far away from New Orleans.

~~SOUTH~~
NORTH CAROLINA. A few collections from the southeastern part, made on a single trip.

In addition I have made some collections in Cuba, Guatemala, and Panama, but I think these countries are not included in your project. From Mexico I have 2 gatherings made by a friend, from the Zampola Lakes near Mexico City; not many desmids.

I.B. Survey of additional sections of the U.S. I cannot help much here. My collecting days are just about over, except for places near home.

II. Compilation of literature. It is not likely that I have any papers on American desmids that are not in your library, but if you wish I shall be glad to list those that I have.

III. Compilation of species names. When I get my drawings back from Finland I will make a list of all species, varieties and formae, with their locations. I think the best way will be to type the list on letter-size paper, so that you can transfer them to your cards, since many of my desmids will already be on the cards.

III. Drawings. Most of my drawings are still in Finland. Grönblad and I went over all of them and agreed on the determinations, but he held them with the intention of going through them once more and making comments and critical notes on some of them. Because of the recent startling events in Europe and Egypt, which might flare up into a big war, I have written him to return them right away.

The subject of drawings is an important one and might well be discussed viva voce. As you know, my drawings are made to a considerably larger scale than yours or Bill's or Hannah's, and so would have to be reduced if they are to be mixed with yours on the plates. How can this best be done? I have no easy way, and having it done commercially would be expensive. When I sent my drawings to Finland five years ago, I had nearly all of them photostatted on a reduced scale, about 0.6 of the original size, which cost about \$150. The magnification of my original drawings is about 1650x for desmids less than about 90 μ maximum dimension, so on the photostats this is reduced to about 1000x, which might be suitable. Some of the photostats have faded, and the pencil lines don't show much contrast, so tracing them would be rather difficult, though it could be done on a glass-topped light box. Who would do this, and who would make the finished plates? I should think it would be necessary to engage someone specially for this job, perhaps one of the students at MSU, who had an aptitude for pen and ink drawing.

In many species I have from 2 to 2 dozen sketches showing variations and transitional forms. In the forthcoming paper by Scott & Grönblad several such series will be illustrated, but in a large work like yours it would hardly be practical to show 4 or 5 or 6 figures for one desmid. No doubt it will be necessary for me, or you, to select one or two figures that we consider typical, though in many cases it is hard to say which is most nearly typical, as in some species of *Arthrodesmus* and *Xanthidium*.

V. Ecology. I am not sure what you mean by 'distribution maps'. Do you have in mind something like the maps in Kossinskaja's Russian Desmid-Flora? That is, outline maps of N. America with a dot for each place where a given species has been found. That would be a tremendous job, and I don't see that such maps are of much use.

V.2. Chemical analyses. Although this is last on your list, I thought it was something that I could tackle immediately, so I started the ball rolling. Preliminary results are not too encouraging. The first man I saw was Dr. Walter G. Moore, Loyola, who I knew had been doing limnological work on several Louisiana lakes. But like most limnologists he is a zoologist, and these birds are interested only in such things as turbidity, temperature, thermoclines, dissolved oxygen, and nitrates, and that's about all that is shown on the few analyses that he has. There is another man at Loyola, a Father Malehey (??), who is working on Rhodophyceae, but he was not available and I did not see him, but Moore doubted whether Malehey had any of the data that we want. Next I asked Dr. T. T. Earle, Botany, Tulane, who studied algae under Miss Tilden many years ago but is no longer interested in them. He had no dope, but referred me to Dr. Cagle, Zoology, Tulane, and I went to see him. Cagle was inclined to help, and mentioned that he had recently received a letter from you. But again he is a zoologist, and had none of the complete analyses such as we want. Cagle and some others have been conducting a rather elaborate investigation in Lake Pontchartrain since about 1947, which came to a sudden stop early this year after the election of our present governor Earl Long, a brother of the late and unlamented Huey P. Long. This man likes to spend money, but only where it will benefit him politically, and scientific research is not on his list. Lake Pontchartrain, as you may remember, is about 30 miles East-West and about 20 miles North-South. At its eastern end it communicates with the Gulf of Mexico and therefore is slightly brackish, but the western end received water from one or two good-sized rivers and apparently fresh. I got a quick glance at some of the reports of this investigation and have to study them more thoroughly at the La. Wildlife and Fisheries Dept. I saw a list of plankton algae which they had caught, including 3 desmid genera, *Cl. lunula*, *Cosm. spp.*, and (surprisingly) *Micr. laticeps*. I don't yet know who made the identifications. Also it was mentioned that water samples had been taken for analysis, but apparently the results are not yet published. I am investigating this further.

Next I saw a chemist at the City Waterworks, thinking he might put me on the track. He could offer no suggestion as to where I could obtain the desired information, but gave me a complete analysis of raw and purified Mississippi River water, which I enclose. This is not of much use for our purpose, for I don't suppose there are any desmids in the Mississippi at New Orleans, because of the swift current, the muddy water, and the high pH and hardness. Note the pH of our city water, up to 10.5. In my early desmid days I tried to raise desmids in the back yard, in a tub filled with city water!

From Florida I have an excellent report on the giant springs of Florida, prepared jointly by the U.S. Geological Survey and the State Geological Dept. It gives complete analyses of many of these springs, but unfortunately they are not suitable for desmids because of the hardness. L.A. Whitford has recently published a paper on the algae of these springs, and he found only one *Closterium* in all of them. However, I have written to the Florida Geol. Dept. to see if they have any analyses of the many lakes in that State.

Also I phoned the Geological Survey (Federal) in New Orleans, and they gave me two leads that I am following up by letter. I got an answer from one of them yesterday; the matter was out of their line, but they gave me the name of the man in Austin, Tex., who has jurisdiction over Louisiana, and intimated that he might be able to give me some information.

In case it should be necessary to have special analyses made, I phoned one of the commercial laboratories in N.O. to ascertain the cost. Their charge for a complete analysis, but not including K or Na, is \$50.00, with an extra charge of \$10.00 for K and Na because these required spectrographic work. This is for one sample, with no reduction unless a large number is involved.

That's my story up to date. Will let you know more later.

Jan. 9, 1957

Dear Arthur:

W
Was very glad to have your good letter today. I have been very remiss in my correspondence--only because pressures of the moment seem to be very persistent. The sketch you included is certainly an image of *fa. recurvata* and is rather in between Taylor's illustration, Pl. 44 and one of his figures on Pl. 47. (Pap. Mich. Acad. 1935). I suppose this species varies as it pleases around the world--but it is interesting that the same variation should occur in such widely different kinds of habitats.

It makes my head ache to think of the many minute *Cosmariae* you must be finding in the new collections from Sachlan. These are such a 'come down' from the larger, ornate and much more attractive forms, but of course in their differentiation and distribution they may be as important or more so (as significant). I have been working over some Brazilian stuff and have found a tremendous number of these little critters.

I am pleased to hear that you have some water chemistry analyses that can be made available. Whereas it would be highly appropriate if we could have analyses of water made at or just after the time that biological collections are made--it would be of interest and would be meaningful in any case to have readings made at a time other than when collections of specimens are made. If we could have samples from the same region this spring (from both desmid and non-desmid habitats, and have complete chemical analyses also from these habitats--that is what we want.

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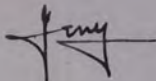
Incidentally, do you know very much about the bayou region along the Louisiana-Texas border? Seems to me we discussed that briefly--or it may have been someone else. Do you know in just what section (near what towns) this region lies? I understand there is quite a swamp area there with bald cypress, etc. If you know anything about this region and where one would go to enter it I would appreciate your information.

We have Tess well along on the recovery schedule. Still rather much upset and weak--doesn't like to eat anything and of course cannot get her strength back rapidly.

Am planning on putting Hannah's next paper in the April number of the Transactions. She has a very fine set of plates (too many for us to handle actually). It will make a fine contribution.

My regards to you and Edith. Hope you are all well--no more operations--no more broken ankles or anything.

Cordially-



Feb 17 1957

Dear Jerry,

I have received a few more analyses of water from Louisiana lakes, but all of them are from the northwestern corner, next to Arkansas, and of the whole lot there is only from which I have previously made a desmid collection, Lake Bistineau. So I shall have to make a special trip up there when the cold weather is over. It will not be possible to get analyses of water taken at the same time as the algal gatherings; the Quality of Water Branch, U.S. Geological Survey, will not make analyses for private individuals; they work only in conjunction with the various State Governments. We shall have to be content with what is already available, but I think there is no reason to suppose that either the water chemistry or the algal population changes appreciably in the course of a year or so.

I cannot tell you much about the 'bayou region' along the La.-Tex. border, and I do not remember having discussed it with you; probably it was someone else. Probably the region is in the neighborhood of Orange, Tex., where it is crossed by U.S. Highway 90. The waters there do not look to me to be favorable for desmids, and I would not expect to find any but the commonest species adapted to hard water. The last time I was over this road was about 6 or 7 years ago, when I made a special trip along the gulf coast of Texas as far south as Corpus Christi to see what it offered in the way of desmids. I drew an absolute blank all the way, except for three small ponds that were shown me by a local resident near Edna, Tex., and even these contained nothing of much interest. About 12 years ago the late Dr. Gombaloch made some collections for me near Beaumont Parish, in the extreme southwestern corner of La., which I sent to you. They were very poor in desmids; I think that some contained no desmids at all. As you will see from the enclosed map, the area south of Highway 90 is nearly all swamp or marsh, freshwater in the northern part, gradually merging into the salt-water coastal marsh. Rather similar conditions exist in the adjacent part of Texas, between Orange, Beaumont and Port Arthur. If you want to visit this region I expect that Orange, Tex., would be the best center of operations, but I don't think it is worth spending any time or money on, and I don't think you would get any desmids that are not already represented in my other Louisiana collections.

On the other hand, the northern part of Calcasieu Parish and Beauregard Parish, north of Lake Charles, are said to have soils with the second highest pH in the State, the highest being in St. Tammany Parish. I have collected along the road from Starks to Opelousas, on State Hwy 7 and US 190, and got some nice material there. Also I have collected along US 171 from Lake Charles to Shreveport, but the topography is hilly and habitats are scarce; I don't think there were any unusual desmids.

If you are looking for new fields to conquer, how about California? There seem to be very few records from that State, but it surely is big enough to have some desmid habitats. I have visited only the southern part of California, south of Los Angeles, and that was in the 1920's, long before I knew anything about desmids.

The three samples that Sachlan sent me, from Sumatra, have proven even more interesting than I supposed at first glance, and I have been working on them, off and on, for two months, and am still turning up an occasional novelty, or something that has not appeared in previous samples. Some of them are shown on the enclosed photos. The pictures of Phy. irregulare var. intermedium Gutw. show something curious, I am not sure just what. They correspond, apparently, with Gutwinski's illustration (1902, 36:4) which he says shows the zygospores. But his drawing, like my photos, shows the 'zygospore' being formed between the two halves of one cell, so they cannot be zygospores.

Then I supposed that they might be aplanospores, if that is the correct term. But after thinking the matter over for a month I have just about come to the conclusion that the phenomenon is only a stage of the ordinary vegetative division. This view is, I think, strengthened by my find of an equally curious specimen of O. laeve var. latum, showing vegetative division, in which the new cell grows laterally to almost the full width of the parent cells before formation of the cross-wall. A sketch of this is enclosed. The Phymatodocis is fairly plentiful in the collection, and I found three short filaments in state of division, but no other stages which might elucidate matters. From USA I have one specimen of Phy. Nordstedtiana fa. minor showing some new semicells, but they have already separated and there seems to be nothing unusual about them. Can you tell, from the appearance of the cell contents as shown in the photos, whether the phenomenon is ordinary division or something else? I have two of these short filaments mounted on slides and could send them for your examination if you wish.

Another remarkable find is a Staurostrum that is like nothing I have ever seen or heard of before. Unfortunately only one semicell has shown up, though I have examined at least fifty slides from this sample. It is shown on the enclosed sketch. Do you know of anything like it?

From Germany I have just received a reprint of a paper "Süsswasserelgen der Wallacea-Expedition", by Karl Behre of Bremen, describing algae from the Philippines, Celebes and a few from Bali and Sumatra. This is highly interesting, but unfortunately he has described at least one new species and a few varieties that we also described as new in our still unpublished Arnhem Land paper. Ray Specht, the collector of the Arnhem Land material, visited me in New Orleans last September, and told me then that he expected to be home in Adelaide this month. He may have been delayed by the Suez Canal closure, but I have written him asking him to let me know the exact status of our paper, and if there is still time I will undertake the necessary corrections in names. If you have Behre's paper you might look over the miscellaneous algae and see if he has anything that conflicts with your novelties. I sent you prints of your plates, and am fairly sure that I sent you a copy of the Mg. also.

Edith and I are very glad to hear that Tess is recovering nicely, and hope the improvement will keep up. Telling's wife was in the hospital at Christmas for treatment of a cancerous tumour on her neck, and she is home now and getting better. Grönbjäl also was in the hospital with a heart condition. He is better now but has to live more carefully, and slow down considerable. Edith and I are well, and knocking on wood!

Best regards from

MICHIGAN STATE COLLEGE

EAST LANSING

March 21, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

I certainly am most unsociable these days--meant to have written you long ago. My program (if there is such a thing) was interrupted by a library trip to Columbus and Cincinnati--and since then I have been behind a whole row of 8-balls trying to catch up. I wanted to write you about the conjugating *Phymatodocis* which is interesting indeed. Your photomicrographs are quite sharp--I wonder how they will look if enlarged.

I shall not write a letter now for I am in a jam--getting ready for a take-off to Texas and NW Louisiana. After planning this trip I learned that the conference I was supposed to go to was scheduled for April rather than for February--and that it would be in New Orleans. So I shall hope to see you the first week in April. I'll call up as soon as I get settled and as soon as this conference is over perhaps we can have a visit. I would like to have Tess along--but under the circumstances she has decided best to take this time to visit the second and third generation--in which I envy her. In any case she would like to see you folks--but she wants to go to New Orleans when we have the car there and when we have more time so that she can sight-see about Louisiana country.

Please forgive me for being so slow in writing. Hope to see you before too long. My best regards to Edith.

Cordially, *G. W. Prescott*
G. W. Prescott



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

March 24, 1957

Dear Jerry,

Its great news that you are coming to New Orleans, and Edith and I are eagerly looking forward to seeing you. Too bad that Tess is not coming with you, for April is probably the best month of the year down here, but we can understand her desire to see the young folks.

I know that you will be busy with the conference, but hope you will be able to come up to the house for dinner and spend the evening with us. It would be even better if you can give me half a day or a whole day, for there are many things that I would like to discuss with you.

Our paper on *Ichthyodontum Sachlanii* has been published in *Reinwardtia* and the reprints have been shipped, but it will be 3 or 5 weeks before they get here.

Also I have heard from Australia that they are now preparing proofs for the papers that will form the botanical volume of the Arnhem Land Reports, but that our paper has not yet reached the proof stage, so that some corrections can be made to take care of the conflicts between our names for a few new taxa and those published by Karl Schre in his paper on the Wallacea Expedition. I want to go over these with you and decide what we shall do.

Best regards to you and Tess from Edith and myself.

Sincerely,

P.S. If you are going to do any collecting in northwest Louisiana, you might try to get material from Caddo Lake, northwest of Shreveport; Cross Lake on the western outskirts of Shreveport; and Wallace Lake, some 15 or 20 miles south of Shreveport. I have chemical analyses for these lakes, but no desmid collections. About 7 or 8 years ago I got one collection from Caddo Lake near a dam close to Mooringsport, but it was so extremely poor in desmids that I discarded it. However, we now need it as an example of a hard-water lake.

MICHIGAN STATE COLLEGE
EAST LANSING

April 26, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

All I can say is that Louisiana has some of the best block-buster viruses on the market. That is certainly too bad that you had to go off to the hospital. Sounds like the same critter that I had. Must have been rather rough on you--but I do hope you are back on the sled again. Edith did not get it did she? It must be irksome if you have to sit long at a time without getting to your laboratory. By now though you probably are up and at it again. I am just about but I had a long pull there where I just felt weak and as though I just wanted to flop and let the world go on without me. Feel pretty good now - but so very far behind. I am gaining on the AMS Trans. though. It is almost out in April and I have hopes of having the July number actually out in July. Once I am 'up' I think I can keep on schedule.

Just had Krieger and Bourrelly's paper on Venezuela desmids. It is going to be interesting to compare their list with the Andean forms. I have quite a number of papers to get into the iconograph and I shall hope to have them all entered by the time you come up.

This is not much of a letter--just a hello and a well-wisher. Shall write again as soon as I have cleared some things away. Our very best to you and Edith.

Jerry



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

May 20 1957

Dear Jerry,

In accordance with our telephone conversation I am sending herewith my copy of the final typescript of our Arnhem Land paper. This is the only copy I have, though I have another copy of the previous draft, which differs in many small particulars. Also enclosed is a carbon of the corrections that I sent to Saecht on May 9th. Glad to see that at last they are getting a move on, after nearly five years of delay.

This morning I received a package of reprints of our Ichthyodontum paper from Indonesia; no doubt yours will arrive in a day or two, if not already there.

Also this morning came a letter from Hannah, saying that her mother is getting along nicely, and is planning on going home to Pennsylvania for the second half of June, when Hannah hopes to be at Woods Hole; after that she will be back at Hanover.

If all goes well Edith and I will fly to Detroit on June 17th, rent a car there and drive to East Lansing; and return from Detroit to N.O. on June 26th. This will give me a week in which to identify the Indonesian desmids on the 1032 drawings that I have made during the last 6 years. These represent, at a rough count, about 430 desmid taxa, in 29 genera. Of course I hope that you will be able to help me with the new species, and with the difficult intergrading series of forms particularly in Staurostrum.

Best regards to you and Tess, from Edith and myself.

May 29 1957

Dear Jerry,

That was a terrible job of corrections and changes in our Arnhem Land paper, and I don't see how you managed to accomplish it so quickly. For those faults that were caused by my inexperience and carelessness I apologize most humbly, and can only add that I shall know better next time, I hope I hope. Many of the changes, however, were required by the peculiar typographical style that they have in Australia. I encountered some of these peculiarities in our South Australian paper, and this editor seems to have some new ones. The name B. M. Ramsden is new to me, he has not appeared in ~~my~~ my previous correspondence.

Here are the answers to the questions on p. 2 of your letter:

St. sublaevispinum. I have a photocopy of this paper, and the page number given in our citation is correct. The publication date of the paper was 1898, not 1897, which was the date of reading of the paper. But let's not try to change it now. Anyone interested can easily find it.

The "remainder" of the samples is that part which Specht kept in reserve, and which he has deposited in the Museum of the Dept. of Botany, Univ. of Adelaide. I have sent portions of my material to Farlow Herbarium. So your statement is correct, or Specht can change the wording slightly if he desires.

Apparently the Latin diagnosis for *E. Longicolle* fa. minus was overlooked entirely. I do not have it.

You are correct in your reply #41, regarding the drawings of zygospores of *Sp. pulchrum*. The drawings of Louisiana and Florida zygospores are in my possession, and will be published at some future date. It would not have been appropriate to insert them in the Australian paper.

After checking with the airline I find that the best way from N.O. to Lansing is via Chicago, so I have made reservations for Tuesday, June 18th, and return on Thursday June 27th, to take advantage of the family fare. These dates can be changed, of course, if they should not fit in with your arrangements. The plane from Chicago arrives in Lansing about 7 pm, and it would help greatly if you could meet us and drive us to the Kellogg Center. You say the rates there are very high, but we found them lower than the average in 1954, when we paid \$8.00 for a twin room. If the rate has gone up since then I would not object to say \$10.00 per day, which is what we have to pay for either a hotel or motel down South. So would you please make a reservation for us at the Kellogg, arriving about 8.00 pm June 18th, and leaving early on the 27th.

Best regards from both of us.

MICHIGAN STATE UNIVERSITY
OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

Monday

June 3/57

Dear Arthur:

Glad to have your letter today. Had one from Hannah also who has forwarded the missing Latin diagnosis to Specht so that is all settled.

Your trip via Chicago would seem to be a good direct# connection. I called the Kellogg Center and find that on that date they have a conference going but there is a possibility that there will be some rooms available--but cannot find out until tomorrow. Shall do my best--and at least will have a reservation for you some place so plan your trip on the days you mentioned and I shall be out to the airport to meet you.

The Los Angeles people kindly offered to do the Latin for new entities in the Brazil stuff so I do not have to worry about that or bother Hannah with it at this crowded time of year.

Best regards till later--

Jerry
GWP

June 17 1957

Dear Rolf,

Tomorrow my wife and I are going to fly to Lansing, Mich., where I shall spend a week or more with Dr. Prescott, identifying about 1050 drawings of desmids from Indonesia, also several hundred from miscellaneous collections from various parts of Australia. Also I am taking along ~~my~~ Brazilian drawings and some from Guatemala and Panama in case I get time to work them over.

I had expected to be able to drive up there in our car, as we did three years ago, for both my wife and I like travelling that way. But my doctor thought it would be too tiring for me, especially so soon after recovery from the last illness.

A few days ago I received a short letter from Dr. Prowse, saying that he will send more desmid collections to me shortly. Also he proposes a joint paper with you on Malayan desmids. I am afraid, however, that I shall have to decline the honour, not because I don't want to do it (I should like nothing better), but because I have all the work on hand that I can undertake for the next few years, as you will see from the above list of drawings, in addition to the large unpublished remainder of my USA drawings. It seems to me that all this will require at least five years, and by the time I am 75 years old I doubt whether I shall be able to do any more work on desmids.

Prowse mentioned in his letter that you have been ill, but I hope that this refers to a previous occurrence, and not to the present case. Hannah told me recently that her Mother is considerably improved, and was going to stay in Pennsylvania during a part of the summer, while Hannah goes to Woods Hole. The last installment of Hannah's paper on Alaskan desmids has just been published in Trans. Am. Microsc. Soc., and no doubt she will send reprints soon. I have sent you reprints of my Ichthyodontum paper, and of the Peruvian paper by Krieger & Scott.

We shall return to New Orleans on June 28th, and I will write you again soon thereafter.

Best rerards from

June 28 1957

Dear Jerry,

Our plane to Chicago arrived at O'Hare field 50 minutes late, so we missed the New Orleans plane by 20 minutes. However, they put us on a later and better flight non-stop to New Orleans, thence to Havana and Caracas (wish we could have continued) and even paid for a taxi to take us to Midway field, at a cost of \$6.50. That's worth knowing in case the same thing happens to you. From Midway I tried to phone Edna Gotch in New Orleans, who was to meet us at the airport, but could get no answer. So there was another humbug here, for Edith had given Edna her key to the house, and I had foolishly left my bunch of keys at home, so we had to take the limousine and taxi and go to Edna's house and wake her up to get our key. Anyway it gave Edith a lot of nice subjects to worry about.

The hurricane Audrey missed N.O. by 200 miles or more, and here they had no more than some strong gusty winds. But it has done a good deal of damage in SW La. and the adjoining part of Texas, though apparently less than had been feared. I had thought that perhaps the path of the hurricane might cross our flight-path, and indeed we had to fasten our seat belts for half-an-hour, south of Memphis, but there were no more than a few mild bumps.

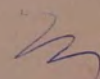
Among the letters waiting for me was one from Grönblad saying that the reprints of our large USA paper are on the way to us, so they should arrive in the next three weeks or so, and I shall immediately send you two copies, one of which you may cut up for the iconograph. Also he says that he has almost completed our Sudan paper, with 23 plates which have been inked by a Finnish girl mostly from my drawings with some of his. Some of the desmids in this material were so exceedingly rare that he found a few which did not appear in my examination, and vice versa.

I shall write Sachlan tomorrow and tell him what we accomplished during my visit, and shall also report the non-arrival of your parcel of reprints of our last paper, but I think it will help if you also report it when you get time.

If you will send a \$1 bill to The Secretary, Royal Irish Academy, 19 Dawson St., Dublin, Eire, he will send you W. & W.'s paper "A contribution to the freshwater algae of the North of Ireland", 1902, a beautiful example of the printer's art.

Now a renewed expression of my sincere thanks for your extreme kindness and hospitality to me and Edith during our stay. I was sorry to have taken so much of your time during an exceptionally busy period, but I am much better satisfied, and I think you are too, that both of us went over all of my drawings and arrived at mutually satisfactory determinations. I shall proceed with the writing of descriptions of the new taxa, and send them to you for criticism, accompanied by the original drawings.

Sincerely,



FCRIM.No.12G/57/31.

FISH CULTURE RESEARCH PROJECT
BATU BERENDAM
MALACCA

Date.....22nd July, 1957.....

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

Dear Mr. Scott,

..... I enclose a reprint of my paper on Malayan Desmids. This is only an article to introduce the people in this country to the study of Desmids, and does not pretend to be anything more. I understand that it has proved satisfactory for the ^{purpose} for which it was written. The key seems to be reasonably understandable, although the fact that you confirm the existence of a triangular variety of Phymatodocis makes it a little out-of-date. Any errors in the paper are my sole responsibility, and I hope that I may be forgiven for them. A really detailed paper on Malayan Desmids is very necessary, and I hope, with some assistance from yourself and Dr. Grönblad, that I may be able to produce one.

With best wishes,

I am,
Yours sincerely,

G. A. Prowse

(Dr. G. A. Prowse)

MICHIGAN STATE COLLEGE
EAST LANSING

Aug. 16, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur and Edith:

Just a note to say hello and to say we are hoping for you that the weather has not been too rough. We have had it very delightful here--some rain but not too much, and pleasantly warm. Made our last field trip today and raked in a great mass of desmids from an old Sphagnum bog, but like so many desmid habitats around here the place is simply loaded with four or five or so different things. Today I found a veritable bathtub full of one species of Cosmarium- forming thick, floating gelatinous masses over quite an area of the bog. The collection will bear study though, so I am canning up a big lot for perusal just in case something of interest might appear.

Arthur, have you heard any more reactions from our Australian friends? I hope the paper went through to the printer OK. I have heard nothing more from Womersley about the cost of reprints- so maybe they have not gotten that far along yet.

Tess is leaving tomorrow via car for Stanford. She will meet one of our staff members in Charleston, W. Va. and they will drive out together--leaving me to get out the best way I can. We do not close here until the 21st and I have to be in Stanford the 25th.

Let us hear from you. Drop a line to the East Lansing address for forwarding. Edith, I am very glad if you liked the simple smear I sent down. Someday maybe I can do a really good one for you--I hope. Best regards to YOU-ALL.

G. W. Prescott



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

Aug 23 1957

Dear Jerry,

Glad to hear that you had such a nice summer vacation in Virginia. I have purposely refrained from bothering you, though there are some things I have to ask you when you get back to work. Sachlan sent me three more vials from the same swamp at Menggala in Sumatra that has proven so very rich. At first I thought that the samples contained nothing that I had not seen before, but on a more thorough examination I have found half-a-dozen desmids not found previously; a couple of them may be novelties, and I shall have to ask you to see if you can identify them with known forms, for I cannot find anything just like them. All of them are small to minute; one measures 6.5 x 6.5 u, pretty close to the smallest on record.

I have never found desmids in such abundance as those that you mention, possibly because we have so few real sphagnum bogs down here. The collections that I like are the ones that have a wide diversity of species, such as those from Menggala mentioned above. I have close to 500 desmid taxa from Indonesia, and I wouldn't be surprised if half of them occur in this swamp.

Yes, I had another letter from Ray Specht asking a few more questions about our paper, which I was able to answer satisfactorily, and gave him an immediate answer. He said that the Ms. had gone to the printer, and that he would send the proof to me by airmail, so it may arrive soon. Please drop me a line and tell when you will be back in East Lansing; if there is time I would like you to read the proof also. Specht also said that he would advise about the cost of the reprints when the printer had the paper set in type.

The paper by Scott & Grönblad, "New and interesting desmids from southeastern USA" is out at last, and he sent me one copy by airmail. The reprints ought to arrive soon, and there will probably be one waiting at East Lansing for you when you return, together with extra copies of the plates that you can cut out for the iconograph. I think you will like it and be surprised at the large number of novelties.

That's quite a long drive for Tess, way out to California, even with a friend to help her drive; and after the meeting I suppose you will go to Oregon. I would like very much to make another long drive like this, but don't know whether I shall be able to do it. I should certainly have to get another car with power steering, for the Chrysler Imperial is very hard to handle in getting in and out of parking places, though it runs very nicely on the open road. My doctor doesn't like it, because I have atherosclerosis and insufficient "cardiac reserve", and such work leaves me breathing hard and with a rapid heart-beat.

Edith and I both like your picture of Canon del Cobre very much indeed. I think it is an excellent depiction of the weird rock formations, which remind me of photos I have seen of some place in the bad lands of Utah. The rocks themselves look as if they might be sandstone; if they are there might be some desmids down in the valley, if there is any water there at all.

Best wishes to you and Tess, from Edith and myself.

Sincerely,

Sept 6 1957

Dear Dr. Prowse,

Many thanks for the copy of your first paper on Malayan desmids. It is a very good introduction to the subject, and I hope it will have its deserved success in arousing an interest in desmids among at least a few Malayan students.

Your photos are excellent and for some purposes they give a better overall impression of the appearance of the plant than can be conveyed by drawings, which however are necessary for certain identification, as you know. Your drawings also are good, and in most cases sufficient for identification; in others you need to show additional views, principally the vertical view.

It is rather unfortunate that you did not send advance copies of your drawings to Grönblad or to me for a check, because some of your identifications are incomplete and others are wrong. You can hardly be blamed for this, for you have picked out some very rare species that are known only from one or two previous illustrations, and apparently you do not have the necessary literature. Some others are probably new varieties. I am giving below a list showing my interpretations of your illustrations, and I think Grönblad would agree with nearly all of them.

Plate 47.

a. *C. Askenasyi*. Your plant is the typical form, longer than wide. There is a var. *circularis* Behre, with length and width about equal, and a var. *latum* Scott & Fresco, (in press 1957) much wider than long. All of these forms occur in Indonesia.

b & c. *St. sexangulare*. Your photo looks like var. *bidentatum* Gutw. This desmid is extraordinarily variable, occurring in 4-, 5-, 6- and 7-radiate forms, some of them with long slender processes like yours, others very thick and compact. I have 6 or 8 forms from Australia and Indonesia, and all I can do is to group them more or less arbitrarily and assign them to some of the known forms, and to make new varieties for others.

Plate 48.

a. *Pl. verrucosum*. This is var. *bulbosum* Krieg. because of the sharp apical teeth projecting above the apex, and the smaller number of rings of 'windows'. In the specific form the apical granules are low and rounded, and frequently hard to see even when specially searched for.

b. *S. coarctatum*. OK.

c. *H. burmensis*. Seems to be OK; I have not seen this variety.

Figure 5.

a. *Cl. parvulum*. According to Krieger *parvulum* has four pyrenoids per semicell; yours has only two, making it look more like *Cl. venus*.

b. *Cl. juncidum*. OK if the wall is striate, which should be shown; if smooth *Cl. toxon*.

c. *P. foxii*. You have probably identified this and the next one from Bernard's papers, but I should warn you that Bernard's determinations are unreliable, and a good many of them have been relegated to synonymy by Krieger, particularly in *Penium*, *Pleurotaenium* and *Closterium*. *P. foxii* is really *Cl. libellula*, a cosmopolitan desmid, and your picture is probably var. *intermedium*, though I have never seen one with such flat truncate ends as you show. Are they really that flat?

Figure 5.

2.

- d. *Penium navicula* was transferred to *Glosterium navicula* by Lütkenüller. *Penium* never has terminal vacuoles with moving crystals, to the best of my knowledge.
- e. *Pl. subcoronulatum*. Maybe; but *subcoronulatum* is not so undulate as you depict and the apex is inflated.
- f. *Pl. ovatum*, OK.
- g. *Cl. kuetzingii*, OK. Note spelling.
- h. *T. brebissonii* has a different kind of marking, see Krieger, Monograph, Pl. 54. Your plant is *T. laevis*, probably var. *tropicus*.
- i. ~~*Sporosuctaria*~~ *Tr. gracile*, OK.
- j. *G. monotaenium*, OK.
- k. *Pl. kayei*, OK.

Figure 6.

- a. *M. alata*, OK. Are there 3 or 4 teeth at the ends of the arms? Both occur.
- b. *M. thomasiana* var. *evoluta*, OK. In the few specimens I have seen from Indonesia the two pairs of supraisthmian processes are twinned.
- c. *M. mahabuleshwariensis*, OK. Usually (or always?) the 'neck' below the polar lobe has subparallel sides, not rounded as you show.
- d. *M. foliacea* var. *ornata*, OK. The small teeth which distinguish the variety are usually more prominent than you indicate.

Figure 7.

- a. *E. indicum* var. *compactum*. I have not seen this. Your illustration shows a plant considerably larger than *EW*'s, with different basal angles, and central mucus pore is lacking. May be a new variety, but you need other views for comparison.
- b. *E. anatum* var. *dideltiforme* Ducellier. OK.
- c. Not enough information to identify. There are several small *Euastra* of similar form.
- d. *E. denticulatum*. Probably OK, but *denticulatum* always has 4 granules in the center of the face, as far as I know.
- e. *E. substellatum*, OK. Your polar lobes are unusually wide, and should show some intramarginal granules. This species also varies a good deal.
- f. *X. armatum*. This is not the specific form, but probably var. *anguligerum* Krieg.
- g. *X. acanthophorum* as found in Indonesia has a pattern consisting of two horizontally adjacent hexagons of triangular pits each with a circular raised granule in the center. I interpret your drawing as showing a single rosette of raised verrucae, similar to that of *E. substellatum*. Your specimen therefore would be a new variety.
- h. *E. turgidum* var. "*perornatum*" var. nov. I found this from Borneo in 1951, and had intended to name it var. *perornatum* Scott & Presc. But as you have published a drawing of it first, the honor of naming it belongs to you. It is the most highly ornate desmid that I know of. Your drawing is somewhat distorted, in that the left and right sinuses should be on the same straight line. Top and side views should be given.
- i.

Figure 7.

- i. Not the specific form of *X. subtrilobum* (not *subtrilobatum*), but probably a new var. I have not seen this, though I have the species and var. *inornatum* Skuja from Indonesia.
- j. *A. incus*. One of the many forms assigned to this species, which needs to be revised.
- k. *A. octocornis* fa. The spines seem unusually short.
- l. *E. gnathophorum* OK.

Figure 8.

- a. *C. connatum*. Probably OK, but you ought to show the chloroplasts, which are the only characteristic by which *C. connatum* can be distinguished from *C. pseudoconnatum*. In *connatum* the chloroplast in each semicell is divided into two parts each with one pyrenoid. In *pseudoconnatum* the chloroplast in each semicell is typically divided into four quadrantal parts (never less) as seen in top view, each with one pyrenoid, but examples are known with 5, 6 or even 7 pyrenoids and a corresponding division of the chloroplast. See Scott & Grönblad 1957.
- b. This corresponds with what other authors have called *C. pardalis* Cohn, but it is not the true *pardalis*, of which Grönblad and I have seen actual specimens from Witttr. & Nordstedt's *Exsiccatae*. In the real *C. pardalis* the granules are arranged in horizontal rows, not oblique. I don't know just what to call your specimen; if there is a group of pores surrounding each granule it belongs in the *C. margaritatum* group; if not it might belong to *C. quadrum* or *C. pseudobroomei*.
- c. This is *Dysphinctium lagerheimianum* Turn., but as the genus *Dysphinctium* is no longer recognized it is better named *Cosmarium lagerheimianum*, as Turner originally called in a letter. I believe the only previous illustration is in Turner 1892, *FW Alg. N. India*. It is fairly common in Indonesia, and all the examples I have seen are circular in top view, like yours, while Turner's picture shows the top view broadly oval. He also has a *C. paxillosum*, which as far as I can see does not differ appreciably from *lagerheimianum*.
- d. This is *St. zahlbruckneri* Lütken., but I cannot tell whether it is the specific form. It is more likely to be var. *manillatum* W&W, first discovered on the island of Koh-Charang in the Gulf of Siam (W&W 1901). I have found this variety from Java and Sumatra. You show no markings, but the wall is prominently scrobiculate, particularly at the basal angles, and in front view the deep pits at the angles cause the margin to appear slightly undulate or crenulate.
- e. *St. tohopekaligense*. OK.
- f. *St. gladiusum*, probably OK, but I find it quite difficult to differentiate the many *Staurastras* of this type.
- g. *St. margaritaceum*. Perhaps; but the markings on *margaritaceum* are small rounded granules, not sharp teeth as you show, except at the extremities of the processes.
- h. *St. disputatum*, OK. The ends of the lobes are not truncate as you show, but rounded.
- i. *St. connatum*, probably OK; but not typical; the spines usually are longer and more nearly vertical.

Figure 9.

- a. *Cosmoecidium saxonicum*. OK. The connecting strands are not gelatinous, according to J. Heimans "Das Genus *Cosmoecidium*" 1935, but are formed by the split shed 'skin' of adjacent semicells which adhere. If you examine this strand closely you can see something projecting from it at right angles, halfway between two adjacent cells. That's all I can see, though Heimans claims to see more details. Staining with methylene blue helps.

Figure 9.

- b. *Hyalotheca dissiliens*. OK.
- c. *Hyalotheca mucosa*. OK.
- d. This is not *H. neglecta*. It is probably *Groenbladia* (*Hyalotheca*) *inflata* Scott & Grönblad 1957, which I first found in USA and later in Indonesia. *Groenbladia* is a new genus created by Teiling a few years ago to receive those species of *Hyalotheca* that have a flat plate-like chloroplast, as distinguished from a stellate chloroplast.
- e. *D. baileyi* fa. *tetragonum*. OK.
- f. *D. coarctatum*. OK. In your end view I think the projections are made to appear too sharp; I have never seen them like this.
- g. *O. laeve*. OK. I think the small rectangular projections from the apical surface which you show are not correctly drawn. You make them appear as if they were connecting pads as in *Desmidiium*, but such pads do not exist in *Onychonema*; the only connection between adjacent cells is the overlapping knobbed processes, plus mucus, of course.
- h.g. This is not *D. swartzii*, which is proportionately much wider and has a different end view. It looks like *D. suboccidentale* Scott & Presc. (in press 1957), or it might be *D. asymmetricum* Grönbl. You should show the connecting pads on the end view, they are important diagnostic features.
- i.k. *C. moniliforme*. OK.
- j. *Sp. nitens* v. *triangulare* fa. *javanica* Gutw. (not Godl.) OK. The ends of the lobes are not truncate as you show some of them.
- k. This does not belong to *Phymatodocis*, which never has apical pads or mucus connectors. Your plant is a new 4-radiate form (or facies) of *Streptonema trilobatum* Wall., which has hitherto been known in a 3-radiate form. The only extant illustration that I know of is in Turner 1892, though I have a better picture in Scott & Prescott, Arnhem Land, (in press 1957). You and I, Sachlan, Grönblad, and few of my other friends to whom I have sent samples, are probably the only living persons who have seen *Streptonema*. Your end view shows 3 lobes curved counter-clockwise and the fourth clockwise. This is very peculiar, and I would like you to see if all specimens are like this. I have seen a few specimens from Australia and many from Indonesia; all of them have their three lobes curved counter-clockwise.
- l. *Sp. tetragonum*. OK.
- m. *Sph. Wallichii* Jacobs. var. *anglicum* W&W. Not as you have written it.
al
- n. According to the International Rules for Botanical Nomenclature, *Bambusina* is a nomen conservandum against *Gymnozyga*. Therefore the correct name is *Bambusina Borreri* (Ralfs) Cleve, instead of *Gymnozyga moniliformis*, though your identification is correct.

I expect you will be dismayed at this long list of corrections, which shows that for some years to come it would be advisable for you to have your determinations checked by Grönblad and/or myself. As I told you in my last letter I shall be glad to help as much as I can, though because of the other work ahead of me, and my declining health, it would be unwise for me to undertake a formal collaboration. You are in the same fix as I was nearly twenty years ago when I first started collecting desmids; living in a very rich and almost unexplored region, and quite unable to identify the many new desmids that I found. There is nobody else here who knows or cares anything about desmids, so with only such help as I could get from books I had to devise my own methods of collecting and preparing the material, where to look for desmids, how to use the

use the microscope and camera lucida, where to beg or buy some of the old out-of-print books and literature, etc., etc. Some of my friends, Telling, Grönblad, Krieger and Prescott were very kind in giving me duplicate copies that they happened to have; other literature I have bought from American and European dealers in second-hand scientific books, and still others I have had copied on microfilm or photostat at the big libraries. So I am doing likewise, and some days ago I send you several duplicates that I hope will be useful to you. Also I have on hand a lot of miscellaneous papers that I receive from correspondents, dealing with FW algae other than desmids, and these are of no interest to me. If you want them just say the word and I will send them.

Also I sent you a week ago the big new paper by Scott & Grönblad on desmids of the southeastern USA, describing all the many novelties that I found during more than 15 years of collecting in this region. It is not likely that you will find many of these American forms in Malaya, though there are a few exceptions like the *Groenbladia* inflata mentioned above. Another good-sized paper by Scott & Prescott, on FW algae from Arnhem Land in N. Australia is now in the printer's hands for setting up in proof, and I hope to receive the proof shortly. When this is published it will be of considerable help to you, for the desmid-flora of N. Australia is very similar to that of south-eastern Asia including Indonesia.

No doubt Grönblad has told you that he has finished the Sudan paper, and he hopes it can be printed in September, though I fear that this is very doubtful. This will be an important to the scanty literature on African FW algae.

addition

Your Malayan project is one that will require years, perhaps many, and the longer you collect and study the more accurate the results will be. When I find a desmid that I have not seen before, of course I try to identify it from the literature, and many times I have thought I had made a satisfactory determination. Then months or years later, from another locality the same desmid has turned up again, but showing slight differences, and again from other places. In the end I have had a series of intergrading forms that not only give a far better idea of the range of variation, but in not a few instances has forced a revision of the original determination. My paper on *St. wildemani* is a good example of what I mean, and in the new USA paper you will see several others, e.g. *St. arachne* and *St. gyans*, *St. minnesotense*, and several species of *Arthrodesmus*. So don't be in too much of a hurry to get your results into print.

With my best regards and good wishes,

Sincerely yours,

Oct 4 1957

Dear Jerry,

The galley proof of the Arnhem Land paper is halfway back to Australia by now, and I hope you and I have heard the last of all those miserable changes. The latest that they changed the abbreviations of periodicals cited in the References to accord with those in the World List of Scientific Periodicals.

Two persons had gone through the proof, one making corrections in pencil and the other in ink; I have added a third set in blue pencil, with more corrections than the other two combined. Also I made a couple of small changes in the text, necessitated by the long delay (5 years) in publishing.

No proofs were submitted of the plates, which Specht said would follow later, nor of the plate explanations; I suspect that they are going to print the explanations on the plates themselves, and I don't like that at all, for it will reduce the size of my and your illustrations. I am not much impressed with the typography, so far as it can be judged by the poor imprints of the galley proof; maybe it will look better in the finished book. Anyway there is nothing we can do about these things.

I could find no reference in the text to J.W. Bailey 1846, so it is eliminated from the references.

Enclosed is the rough draft of a short paper on Indonesian Staurostria for publication in Reinwardtia. Please look this over and make any changes that you may think desirable. Then please send it direct to Hannah and ask her to write the Latin diagnoses and return it to me, and I will send her a check when it arrives.

Had a letter from Sachlan a week ago, in which he said that he had spoken to Anwari Dilmy about you, and Dilmy said that IF the Indonesian Govt. has any money to spare next year he would try to get you out to Java for a couple of years. I don't know if he intended me to mention this to you, so don't say anything about it unless he tells you. Wouldn't that be just about tops, eh what? But if its desmids you are after I honestly think you would do better in Australia. I've got about 500 taxa from Indonesia, which must be just about the cream of the crop, though undoubtedly there are more novelties yet to be found. Prowse in Malacca, for instance, has found a 3-radiate Phymatodocis and a 4-radiate Streptonema trilobatum, and a brand-new spiny Pleurotaenium Nordstedtiana.

Your picture of the Canon del Cobre is now framed and hanging in our living room, and both Edith and I admire it very much. Edith wrote to Tess yesterday.

Best regards to both of you, from

MICHIGAN STATE COLLEGE
EAST LANSING

October 8, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur: Wish to acknowledge receipt of your good letter and the manuscript. Have read it once, hurriedly, and shall go over it again--and then forward to Hannah as you suggest.

Let us pray that the other manuscript has been gone over and changed for the very last time. I do hope that they do not cut down on the size of the plates too much. Surely they could print plate descriptions on the backs of the pages and so face the plates.

I, too, had a good note from Sachlan in which he raised the question of making a trip to Indonesia. It is something to dream about. I doubt if they ever have enough money for such an enterprise. Of course there is the Fulbright Fellowship exchange to fall back upon. There must be a veritable garden of interesting and curious entities to flush out of that country. Those are curious items that Frowse has turned up. Looks as though Phymatodocis could do anything it wants to.

I wish to say again how grateful I am for the copies of your very fine paper with Gossolan. Bill Wade is curious about some of the disposition of forms, which collide with his names somewhat. He said he would write you.

Have not decided how to leave for Ecuador--possibly via N. O., in which case I shall try to plan a short visit with you.

I feel honored indeed that El Cobre is deemed worthy of framing. I hope I can send you another smear. Best regards to you and Edith. Cordially,

Jerry



"I will write after I have re-read the MS."
HERE TO THE UNFINISHED WORK . . . " LINCOLN

Oct 14, 1957

Dear Jerry,

Thanks for your letter of the 8th inst. Today I have a reply from Specht indicating that there will be no more corrections in our N. Australian paper. He says that he will advise about the cost of reprints when he gets the page proof, though he did not say whether this proof will be sent to me for a final check, and I don't know if that is customary. The plates will be printed full page size, though that is somewhat smaller than I had been told originally, and the explanations will be printed on the reverse of the preceding plate, which is good.

It occurs to me that my list of correspondents must contain a large number of the same names as yours, and that we might consolidate our two lists and split the work and expense of mailing reprints. In that case I could get along with 75 instead of 100, and you could probably reduce your order to 150 instead of 200. What do you think of this?

I wrote Bill Wade about the apparent conflict between some of our names of new taxa. There is one, *St. brachiatum* var. *majus* Wade, that is seemingly identical with *fa. robustum* Scott & Grönb., and I had really intended to omit it from our paper because I knew he was going to publish it and had wanted to let him have the credit, but apparently it slipped my mind. However his name will have priority because it was published a couple of months before ours. In the other instance that he mentioned, *St. forficulatum* var. *cornutiforme* Wade and *St. magnifurcatum* Scott & Grönb., I think the plants belong to different species although there is a general resemblance in the ornamentation.

Phil Halicki also wrote me a nice letter saying that he is going to work on some of your western collections, and expressing an interest in my camera lucida camera setup. Some 7 or 8 years ago I sent you large photos of my microscope table, and if you could dig them up it would give Phil a good idea of my arrangement.

If you can select your own route to Ecuador, I think it would be just as quick and no more expensive via New Orleans than via Miami, and it goes without saying that Edith and I would be delighted if you could stop over for a day or two. From here you can fly non-stop to Panama, or with a stopover at Merida for a visit to Chichen Itza and another Mayan site somewhere in that vicinity. Or you could make short hops to Guatemala City, Tegucigalpa, San Salvador, Managua, and San Jose as we did. Of all these the only one where you might get some desmids within easy reach of the city is Managua on Lake Nicaragua, of which I got some good views from the air. I could not collect there because the Nicaraguans would not let me into their country on a visitor's card because I am a naturalized citizen instead of a native-born American, and when I found that out it was too late to get a passport. All the other cities are in mountainous country, with very little standing water. I saw two large lakes, one close to Guatemala City and another about 5 miles from San Salvador, but both were sterile looking, with bare stony bottoms and no green stuff visible, but probably you could catch something with a plankton net.

So we hope to have the pleasure of seeing you again soon; but in any event please tell me the approximate dates of your leaving and return, for there are some things in connection with our Indonesian paper that I shall have to discuss with you.

Sincerely,

m

MICHIGAN STATE COLLEGE
EAST LANSING

Oct. 30, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Yes, I think we could synchronize our list of recipients of reprints and so cut down on the number necessary to order--especially if they are to be expensive--as they most likely will. I shall send you a list of names when the time comes for mailing. Meanwhile we shall wait and see what they cost is to be. No order has been placed officially yet, I take it, or have we made a formal order? I remember indicating to Womersely the number that I usually ordered but I think I told him that I would want to know the cost first.

Would it be too much trouble for you to look up the name of a shipping company of a steamship company in New Orleans which sends boats down the west coast of S.A. to Guayaquil? I have heard of one name--the Stella Co. or some such name that means 'star'. We are going to have to ship a truck to Ecuador and I am considering the possibility of having it go from New Orleans rather than from New York which might amount to quite a saving.

I shall give Phil Heilki the photographs which you sent me several years ago. These are very clear and will show him your 'set-up' quite well.

In New York I examined several instruments and gadgets of the Amer. Op. Co. They made my tongue hang out--certainly were beautiful instruments and provided quite a lot of desirable quality to microscopic work.

Best regards till later-



Jerry
"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

Oct 31 1957

Dear Jerry,

It is very good indeed of you to nominate me for consideration by the Darbaker Prize Committee, and the magic of your name ought to enhance my chances by a great deal. Under separate cover I have sent you one paper written by myself, two in collaboration with Grönblad, and one with Krieger, also the paper by Grönblad & Kallio on *Amscottia mira*. I know that the award will be based on work published in the preceding two years, but it won't hurt for the Committee to see all the previous papers. I think the nominations must be in by May 1st of each year, so perhaps it might be advisable to wait a little longer, for our Arnhem Land paper may perhaps be available by then (it will be dated 1957 according to Specht), and a paper by Grönblad Prowse & Scott on Sudanese desmids is probably now in the printer's hands, and should be published in the next few months. Both of these are large papers, with 28 and 30 plates respectively.

Did you get time to check the short Indonesian paper on *St. Freemanii* &c, and send it to Hannah? I hope you can do this before going to Ecuador.

Here are some questions concerning the new Indonesian paper that I am now working on. In the 1956 Code of Nomenclature there is a new provision, stating that the creation of a new variety in a species that formerly had no varieties automatically "circumscribes" a "nomenclatural variety" which is the type of the species. In other words the specific form must be written, for example, *Euastrum ansatum* Ehrbg. var. *ansatum*. What do you think about this, and do you intend to comply with it? It seems unnecessary to me, and tautologous or tautonomous. Further the only ones who could possibly comply would be those who, like yourself, have a complete and up-to-date card index of names. For example, *Euastrum spetzbergense* had no varieties when Krieger wrote it up in 1937, but I have no way of telling whether or not somebody has made a new variety of it during the elapsed 20 years.

Do you wish to employ Teiling's term "facies" in describing different degrees of raddion, i.e., biradiate, triradiate, etc.? You will find an explanation of Grönblad's attitude on pp 5-6 of our paper on Desmids of SE USA, and will note that it is used non-taxonomically, that is not followed by an author's name. I don't care much for it, and would just as soon use the old term forma, with the author's name. In the Indonesian paper I have a few instances where one or other of these terms will have to be used.

When I was in East Lansing you showed me a book that you use in your editorial work in deciding questions of grammar, punctuation, etc. Will you please give me the name of the book, and the name and address of the publishers? Recently I obtained a copy of the Naturalist's Lexicon, and find it much better than Jaeger's Source-book of Biological Names. Did you know that there is a small supplement to the Lexicon, giving English words first, followed by their Latin and Greek equivalents? You can get it from the Garden City Press for about \$1.00.

Best regards, and hoping to see you soon,

FAST
1957



UNITED STATES
EAST LANSING
GOLDEN ANNIVERSARY
1957

THIS SIDE OF CARD IS FOR ADDRESS

POSTALCARD

Mr. A. M. Scott
2824 Dante Street
New Orleans
Louisiana

VIA AIR MAIL

Dear Arthur:

I have copies of all the papers which you and I have published together--but I need a copy (an ~~extra~~) of all the papers you have written with others, and also under your own name. Can you send me one each of all of these at your early convenience? I am submitting your name for consideration by the Darbaker Award Committee. They want to see all papers written within the past two years, and they say these will be returned after the committee has considered names. There may nothing come of it but I do think your contributions are such that they should be given full consideration, especially in view of all the work you have done previous to the last two years.

I have just returned from a N. Y. trip and have not caught my breath yet--but shall write you soon. In the mail which just came I finally have the reprints of the Ichthyodontum paper. Best regards-

Jung

Nov 4 1957

Dear Jerry,

The information on my postcard of Saturday turns out to be incorrect. The Standard Fruit & S/S Co does not have a service to Ecuador, but from the Gulf & South American S/S Co (which is a subsidiary of Lykes Bros. and the Grace Line) I have obtained a freight rate of \$28.56 per 40 cu.ft. from New Orleans to Guayaquil. To get the total amount of freight you have to get the extreme overall dimensions of the truck, multiply them together, divide by 40, and then multiply by \$28.56. So for a truck say 17'0" long, 7'0" wide, and 6'0" high you would have:

$$\frac{17 \times 7 \times 6 \times \$28.56}{40} = \$512.00 \text{ approx.}$$

To this must be added 15¢ per 2000# for wharf tollage at New Orleans, which does not amount to very much, and there will undoubtedly be a similar or greater wharf charge at the other end, and also import duty, about which I could get no information.

You would have to get a customs broker to prepare the shipping papers here, the charge for which would probably be somewhere between \$25.00 and \$50.00.

The address of the Gulf & S. American S/S Co. is 620 Gravier St., New Orleans 12, and they have a ship for Ecuador about every 10 or 11 days. The time in transit is about 8 or 9 days.

Hope this information is what you want, but if there is anything more you would like to know, just drop me a line and I will get it for you.

Sincerely,

AIR MAIL-POSTAL CARD

Mr. A. M. Scott
2824 Dante Street
New Orleans
Louisiana

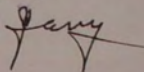


Dear Arthur: I am very grateful for all the information you provided me. I have written to the shipping Co, to make inquiries about possible plans. I really am stymied in knowing what is best and the most economical to do in the matter of shipping a truck. I am thinking about going by boat and on the same one which takes the truck, if this Co. takes passengers.

Yes, the Ms. was sent on to Hannah. I found it in very good shape. This will make a little addition to our knowledge of Indonesian forms.

Please give our best regards to Edith. Hope you are both well this winter and stay that way.

Cordially-



11-9-57

MICHIGAN STATE COLLEGE
EAST LANSING

Nov. 15, 1957

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

I am so slow these days in getting all the various things done which come along with the day's riding. I meant to answer your questions of Oct. 31 long before this.

1) I believe in obeying rules and laws, especially when they 'do the most good for the most people'. In respect to regulations that are a strict matter of opinion, I still believe in going along with the rule if it is considered by the majority to be a good rule. But when a rule is made by a minority group and when one can see no possible good to come from it when applied to particular instances, and when the majority believes the same way (i.e. unjustified in particular cases), then I can ignore a rule with a clear conscience. In respect to the giving a variety name as a duplication of a specific name just because the species name has not borne varietal names previously, I insist on using a right to ignore the rule. (Personally, I think in many cases it is downright meaningless and even silly to give a plant (or animal) a double name. So I would go along with not calling *Euastrum ansatum* var. *ansatum* for a new variety.

I think we have nothing to gain by using "facies" except that it is a good synonym for 'expression' or 'variation' or 'type'. I go along with using simply *fa.* (blank, no taxa name) when there is some minor (what ever that is) variation which does not seem to be genetical, in referring to a plant in question. If the variation (slight) seems to be of a genetical character I am satisfied with using *fa.* (taxa name).



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

MICHIGAN STATE COLLEGE
EAST LANSING

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

I believe the book you have reference to which deals with grammar, etc. must have been: A Dictionary of American-English Usage. Author: Nicholson. Oxford Univer. Press. I note this in many book stores. If you do not see a copy around you there, let me know and I shall send one down. Other books which you may have seen here: A Manual of Style, University of Chicago Press. 1949 revision. This is a standard (almost) when it comes to style books. Another little book that I find quite helpful is: The Concise Usage and Abusage, by Eric Partridge. Pub. by Philosophical Library, New York. Yes, I have that little supplement to the Lexicon.

I think I told you earlier that the Ms. for Latinization had gone on to Hannah. She said she thought she could get to it in the near future--probably has it done by now.

Best regards to you and Edith--

Digitized by Hunt Institute for Botanical Documentation



centennial

"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

MICHIGAN STATE COLLEGE
EAST LANSING

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

12/20/57

Dear Arthur:

Just taking off and am not in a good condition for writing a decent letter--but I just wanted to say good-bye and to wish you all kinds of good luck in your work--and in your health. Do take care of yourself.

Yes, I remember the paper by Drouet and his *Cylindrocystis* shake-up. Apparently the original *Cylindrocystis* is another alga- which leaves room for someone to rearrange things. I thought maybe some time I would--but that is a little technical matter that comes away down the line in importance. We all know what *Cylindrocystis* is anyway and there is no use making a case of it until someone has a chance to recheck Drouet and his findings.

Sorry I do not have the Bruhl & Biswas paper--although I have used it some place. I think you are very OK in making the transfer of *Mic. Moebii*. If you write it up send me the paper--I would like to see just what you did and said about it.

Address: Departamento Agricultura
Ministerio de Economia
Quito, Ecuador.

I shall drop you a line when I get settled. Leaving via air. (Have to ship everything by air freight--we were so slow in getting stuff off--and to ship a Willys Station wagon by air is going to cost). Pray for me!

Best regards



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

Nov 27 1957

Dear Jerry,

Hannah tells me that she returned to you, instead of to me, the Ms of the short paper on Indonesian Staurostra. So will you please forward it to me and I will write it up in proper shape and send it in for publication.

Glad to have your views on the new Rule requiring the repetition of the specific epithet as a varietal name, to indicate the specific form of a desmid when a second variety is discovered. Accordingly I shall not use it in the new paper that I am preparing.

I think you have perhaps misunderstood Teiling's new term "facies". He intends it to be used only to distinguish a new desmid form which in vertical view shows a different number of angles or processes from the "normal" form but does not differ in other respects. For instance, a form of St. cuspidatum which was square or with 4 angles in top view would be known as facies tetragonum not followed by an author's name, (I selected that example at random, and come to think of it, I believe there is already a 4-angular form). Many cases of varying numbers of processes are trivial, such as St. ophiura which is known with 5 to 9 processes, and Grönblad cited St. meriani which may have 5 to 9 angles in top view. But if I, or anyone else, finds a Micrasterias that is triangular in top view I regard it as something highly unusual, and I would want to see the author's name attached to it; so I would describe it as a forma, not a facies.

I did not find any of the three books that you mentioned at the Tulane Univ. bookstore, where I go occasionally, but it is likely that one of the big stores downtown will have one or more of them, and I would like to examine them before purchase. What I want is something that deals not only with grammar and word usage, but will also tell me something about the more or less special rules followed by editors and ~~writers~~ printers of scientific books and journals. For instance, when to use single or double quotation marks; when to use the regular parentheses () or square ones; when to use numerals or words to describe quantities (one rule is to use words for quantities from one to ten, and numerals for 11, 12 and larger); whether to use &c or etc.; and many small things like these.

Have you seen the paper by Dailey & Drouet, "Revision of the Coccoid Myxophyceae"? They state that they have examined the original specimens of certain species of Cylindrocystis, and find that they are not desmids at all, but some other kind of globular Chlorophyceae!

Do you have a copy of the paper by Brühl & Biswas (1926), Algae of the Loktak Lake, and if so would you lend it to me? I understand they have a large number of 'new' species, and though I believe many of them are misidentified, there is always the chance they there may be something of interest in connection with the many novelties that I have from Indonesia.

I have just transferred Micr. möbi back to Euastrum where Möbius originally placed it, and have written a rather lengthy discussion giving in detail my reasons for doing so. Of course I want you to read and criticize it, but will save it until you come down here on your trip to Ecuador.

Hope all your preparations are going satisfactorily and that we shall have the pleasure of seeing you soon.

3-29-68

Dear Arthur:

How are you and Edith? I have been slow enough in writing to find out. I am back in civilization for a short time to catch up on AMS work and--as it turned out, to have a round with the Doc. and the hospital. I do hope you are OK and that you are all ready for spring--which is certainly slow enough up here. It was just about a year ago that I visited in New Orleans where it was so very pleasant--but where 'flu was rather ornery if I remember correctly.

We got off to Ecuador the first of January as planned--but the trucking Co. pulled a fast one and our gear was held up between here and St. Petersburg so that it was 17 days late getting to Quito. We had arranged to have it flown down at great expense--and then they failed us--so we were pretty much out of sorts and disturbed there for about three weeks. Final we got organized and started making our survey trips--using a Willys station wagon that we had sent down. We made one or two trips to high paramo country where water was soft--even acid and I got into some desmid pools--none of them really rich--but in the last group of collections I noticed a good many large Euastrum and some Microasterias--which are good signs that there might be some interesting items tucked away.

One trip we made over to the west side to the Colorado Indian country and one one side trip we ran into one of their settlements and spent a day and a night there--getting pictures and just gopping at their strange ways and strange dress (and undress). We happened to arrive the same night that a Govt. inspector came on the scene with a bag full of penicillin shots. So the next morning we watched the strange procedure of each Indian lying down on a wooden bench and getting a shot--whether they needed it or not. They served us chicken stewed up in a black smoky kettle. It was OK I suppose but it was a little disconcerting to poke around in the kettle and find those curled up, white and very sad looking chicken feet and the sad head with the eyes closed and swollen.

I guess I was rather tired when I went down to Ecuador and I guess I worried too much, and I guess I did not eat properly because I ran smack into a physiological block--had what they called a paralysis of the digestive tract (fortunately I was in Quito when the attack came) and they hauled me off to the hospital for about 15 days. Fortunately there is one good hospital there run by a missionary group. Then as though that was not enough loss in time we discovered here that I had a double hernia that made it rather risky to run around in back country--so I have enjoyed another visit. Am pretty sore and stiff but they get people up soon after operations these days and I was only down flat for 5 days. Now Tess is feeding me up and I am ready to take off. (Did not mean to run into all these miserable details but I was using them I guess to explain why I have been so unsociable about letter writing).

We have two boys at work on the desmid records and on the iconograph--trying to get the records as complete as possible before we sit down to do the sorting and the arranging and to make the final studies. I shall be hoping to hear from you soon--and I shall save some desmid samples for you. Write to U. S. Embassy, Quito, Ecuador. Tess sends her best--she is just leaving on a grocery shopping tour. Cordially-

March 31 1958

Dear Jerry,

Recently I have been thinking that by this time you must be just about finished with your work in Ecuador and that soon you would be home after a pleasant and exciting and profitable experience. And now comes that startling letter from you. What a horrible series of misfortunes. Yet you have nerve enough to go back there while still convalescing after an operation. More nerve than sense, says I.

You have never told me anything about the organization or purposes of your second and third expeditions to Ecuador. I recall that the first one, with Steere and other botanists, was for the purpose of finding additional sources of cinchona bark, but that can hardly be the case now, when there are several more powerful synthetic substitutes for quinine, like Miatrine and Chloroquin. I should really like to know what you are doing and who is paying the expenses which must run into pretty big money.

I've read many books about exploring in South America and can appreciate your experiences with the Indians. I hope none of them were as allergic to penicillin as I am. A few years ago my doctor gave me a couple of shots to cure an acute attack of bronchitis; it probably cured the ailment, but ten days later every square millimeter of skin peeled off the palmar surfaces of my hands and fingers, and the plantar surfaces of my feet and toes. The new skin exposed was as tender as a new-born baby's and I even had trouble in manipulating a knife and fork, or pushing a pencil over the printing board. ~~And the Indians you had a certain poke around the Indian~~ woman's cooking pot; yet the chicken's feet and head were not much worse than the pig's feet that you can buy in jars here, or the escargots bordelaises that I ate every night in Paris as an hors d'oeuvre, or the raw fish in brine that they served me in Sweden. An enterprising supermarket here recently put in a stock of the most astonishing delicacies (?), such things as chocolate-covered caterpillars and bees and ants, smoked octopus, and canned rattlesnake from the Ross Allen snake farm at Silver Springs in Florida. I have tasted the last one, rather like chicken!

Your desmids from the high paramos sound quite interesting, and I hope you won't forget to let me see them. Some years ago I read descriptions and saw photos of the high paramo region just east of Bogotá, adjacent to the precipitous drop-off down to the llanos of Colombia and Venezuela. The combination of granitic rock, a boggy terrain with numerous pools, an altitude of 10,000 feet, and a location close to the equator, ought to produce some curious new desmids.

In May or early June I expect to make a trip to northwest Louisiana, to get collections from several lakes for which I have water analyses. It will be no good going any sooner, because we have ^{had} an extremely cold and prolonged winter, including the heaviest snowfall (ONE INCH!) recorded in N.O. for the last 59 years. If you have a plankton net that is not working you might lend it to me, for some of these lakes may not have enough vegetation for my usual squeezing method.

Last year you promised to nominate me for the Darbaker prize, and I suggested that you wait until the publication of some new papers in which I have collaborated. One of them has now appeared, the Sudan paper, but it is dated March 2 1958, so it cannot be considered for this year's prize. So it will be better to wait until next year, when our Australian paper will have been published, I hope, I hope. In this morning's mail was a note from Specht in Adelaide, saying he is sending page proof for checking, "especially alignment", so apparently the typography is not up to par. Well, we may see it in print, if we live long enough.

I have written the rough draft of a paper for publication in Reinwardtia in our Notes on Indonesian FW Algae series, dealing with the transfer of *M. moebii* to *E. moebii*, but am not quite satisfied with it, and shall rewrite it introducing some new evidence and arguments. This can wait until your return.

Also I have finished the rough draft of the large paper on Indonesian desmids with descriptions and comments, though remains to be written an introduction and the compilation of some tables. Now I am working on the plates, of which 17 are finished and turned over to Mrs. Perine for inking. I guess there will be about 40 plates in all. This is the part of the work that I enjoy thoroughly, and it is hard to tear myself away from it.

No doubt you have received Bourrelly's new paper on the French Sudan. We has a nice assortment of desmids, including some of the same novelties that Grönblad and I have described under different names. Unfortunately, Bourrelly's names will have priority because his paper is dated 1957 and ours 1958. So far I have only one copy of ours, sent to me by airmail, and it will be some weeks, perhaps months, before my supply of reprints arrives.

Grönblad has mentioned the possibility of attending the Botanical Congress in Montreal year, but says it will depend on his health and the possibility of his obtaining a grant from the Finnish Government for his expenses. Hannah suggested that the Phycological Society might be able to help him in getting a grant, by writing him an invitation on the Society's stationery. Of course we both know that the Society could not help financially. What do you think of this? I am going to write Larry Whitford, whom I met some years ago, and suggest it to him. Do you know of any American source, such as the National Research Council, who might make Grönblad a grant?

Edith and I have both been well this winter, save for the usual minor complaints, and we hope that Ted has also. As for you, I hardly know what to say. You have certainly had enough troubles to last for a long time, and I sincerely hope that they are at an end now, and that you will not run into any new ones. Please drop me a line, either from Lansing if you have time, or from Cuito when you get there, and let me know when you expect to return to the States and settle down for a while.

* Best regards and wished from both of us, and LOTS OF LUCK. (GOOD luck, I mean).

Sincerely,

Monday

Dear Arthur:

Your good letter just missed me at East Lansing - but it caught up with me today. Surely glad to hear from you and that you and Edith are in good health - and glad to know, too, that progress is being made, if slowly toward publication of the Australian paper. It was good to be home for a while and Tess did a good job of "feeding me up" so as to gain back weight and strength.

Our work down here is more or less of a continuation of the survey I started three years ago. Yes - the first trip was only for guanine search and I had opportunity to make only a few algal collections - but these were intriguing enough to make me wish to return. My objectives have been several: ① to compare the alpine flora of the Andes with what little we know of the flora in North America ② to see if there are any arctic species in alpine waters; ③ to compare tropical & equatorial algae of the high altitudes with the tropical flora of the lowlands - Brazil, Africa, etc. This time I am making a transect across the Andes from the Pacific coast to the sierras and the Amazon - following, as closely as practical, the Equator. I am finding many interesting habitats in the rivers - streams - ponds - wet banks and boggy swamps. This time I am having made several

kinds of examinations of the habitats for ecological studies. I think I mentioned how few soft water habitats I have found. The best ones so far are the shallow, tundra-like ponds on the high páramos. But I have found a few soft water situations down at less than 1000 ft. elev. that have diatoms. One of the aspects I wish to compare is the difference (if any) between the low altitude and the high altitude species in the equatorial belt, plus the ecological factors that accompany the algal species (especially diatoms of course since that is where my primary taxonomic interest lies.

I do not know whether I have made a mistake - but I did submit your name for consideration of the Barberian award. Even though your list of recent publications was not long, I wrote a strong supporting letter, emphasizing why I was recommending you. The letter had to be in by a certain date and Popenfuss suggested that I write and send such papers as were pertinent. I expect there is strong competition. The people who sit in the lab and culture algae are very popular these days. Anyway, I am not the only one who feels that you merit the award and would like to see you receive it.

I shall try to see whether we could lend you a plankton ~~net~~ net for your use in NW Louisiana. There should be one that can be spared in May from

the department. I shall look into it. I came here with 2 nets & have lost one. I was rather disappointed in my collections from N.W. Louisiana and east Texas. Only in one place - a bog that I discovered by chance, did I find any desmids. You remember I worked in that area just about a year ago - just before we both came down with some kind of flu.

That must be a marvelous paper you are working on which includes 40 plates. It is sad that it is difficult to get such large paper published. Can it be broken into short units. Perhaps *Pennwadia* will accept it as a unit.

No, I am sorry to say that I have not received *Bonnally* latest paper. I hope he remembers me. It maybe there & I have not discovered it yet in the accumulated mail.

I am afraid I do not know of organizations which would help to provide transportation aids for travel to this country (or to Canada). Brunel might know of some Canadian agency. It certainly would be fine if Grönblad could come. I would like to visit with him. Certainly Whitford would be willing to send him an invitation.

If all goes well I shall return in early June - reports and then head for Montana. They have asked me to go back there and the raise in pay is so attractive that I feel it would compensate for the long

haul out there - and the fact that I would like to stay at home this summer. Of course we both like it out there - and I enjoy the work and the people very much. I wish you & Edith would hop a plane & come out for a visit. We would guarantee you a real time and lots of desmid collecting.

Best regards to you & Edith, until later
Cordially
Jany.

Sorry to have to inflict my handwriting on you. Take a couple of aspirins. They will help.

May 14 1958

Dr. G. W. Prescott,
% U.S. Embassy,
Quito, Ecuador.

Dear Jerry,

At last I have received the information from Australia as to the cost of reprints of our Arnhem Land paper. As you will see from the enclosed copy of Specht's letter, they provide 100 copies free. Extra copies would cost \$51.08 for 150; \$75.83 for 225; and \$99.96 for 300; all plus postage. On this basis your regular number of 200 would cost about \$69.00. To this should be added the cost of 14 shillings, \$1.57, per 100 for including the frontispiece map of Arnhem Land with the locations of the collecting stations. I think this map should be included, for it will be a valuable guide for future collectors in the region, since most of the stations are not shown on ordinary maps.

If we combine our mailing lists to eliminate duplicate names, I could probably get along with 75 copies and you with 150. On the other hand this is an important paper that will be in demand for many years, so perhaps it would be better for me to take my usual 100 copies, and you your usual 200. If it is agreeable to you, I am willing to split the cost of the 200 copies, so that your cost would be somewhere around \$40.00 which is not too bad, I think. Please let me know how many I shall order.

I received your long and very interesting hand-written letter, but I have been so engrossed in drawing the Indonesian plates that I was literally unable to tear myself away from the job. Now I have come to a stopping place, at the end of *Cosmarium*, which is also the end of Plate #32. I managed to arrange it in this way so that the paper can be split at this point, if necessary. There still remain the genera *Arthrodesmus*, *Xanthidium*, *Staurostrum*, and the filamentous ones, so it is evident that the total number of plates will be nearer 50 than 40, perhaps even more than 50 because many of the *Staurostra* are of large size, and in a good many instances I am giving two illustrations of one taxon to show variations. Well, I can only hope that the increased size will not prevent Reinwardtia from accepting it, as they have promised. If they should not be able to handle it I shall have to ask your help in trying to get a grant from somewhere to publish it. Recently I saw in the AIBS Bulletin that a private foundation had given a considerable grant to a University in Java for biological purposes, and I am saving the item just in case.

Your program of investigations and explorations in Ecuador sounds quite ambitious, and I hope sincerely that the results will be equal to your hopes. It will be very valuable to have a comparison between the alpine and lowland floras of a single tropical country resulting from an extensive investigation such as yours, instead of having to rely on sporadic collections taken by non-specialists. Gessner published a book a couple of years ago on the distribution of the algal flora in Venezuela, in which the desmids were studied by Krieger, and published posthumously by Krieger & Bourrelly. Those collections were mostly made at fairly high altitudes, and I believe that much richer ones could be obtained in the llanos of southern Venezuela, which extend into Colombia. It is a pity that you are finding desmid habitats so scarce; they are the one group of FW algae that show a tendency towards geographical segregation. But it is my impression that even this tendency is slowly breaking down as more tropical localities are investigated. For instance, *Staurostrum sagittarium* from Australia and New Zealand has recently been found in the Sudan by Grønblad and me, and in the French Soudan by Bourrelly, though the African plant is sufficiently different to be worth a varietal name. Also I have found in Sumatra *Micr. arcuata* v. *robusta* fa. *recurvata* that is so nearly like the Mississippi plants that you would have a hard time telling one from the other if they

were side by side on the slide. Yet *M. arcuata* and all its varieties are supposed to be purely American, with only one rather doubtful record of a variety from Angola, W.Africa.

Many thanks for submitting my name for the Darbaker award. If this application is unsuccessful maybe we can try again next year, when there will be two more important papers to add, Sudan and Arnhem Land. A couple of weeks ago I received the Phycological Bulletin, with Dr. Silva's list of literature for 1956, and I was surprised to see what a large proportion of the papers deal with laboratory matters and methods, and how few there are on desmids.

You don't need to bother about the plankton net at present; my trip to north Louisiana will have to be postponed for some time, because during the last three weeks or so the entire northern part of the State has suffered from severe floods, which seem to be occurring as an annual spring phenomenon. No less than 33 roads in the region are closed because of high water, which extends over several parishes, including the very places that I expected to visit.

Grönblad has told me that he has reluctantly given up the idea of coming to the Congress at Montreal next year. His reasons are good ones: the high cost of the trip; his dependance on his rather unusual living habits, his medicines, and his special tastes in foods, which are quite different from the foods that he would get in this country or Canada. So I'm afraid that I shall never see him again, for it is quite out of the question for me to think of going to Finland again.

Soon you will be winding up your expedition, and I'll bet you will be glad to get back to God's country again. I hope that your luck this time has been all good, and that you have suffered no ill effects from your operation and your illness.

Best wishes from Edith and myself.

Sincerely,

Digitized by Hunt Institute for Botanical Documentation

May 16 1958

Dear Jerry,

I have a request for a reprint of our 1942 paper, Desmids from Mississippi, but have no more left. If you have any available, please send one to

Dr. Alan J. Brooke,
Brown Trout Research Laboratory,
Faskally House,
Pitlochry, Scotland.

Drop me a postcard when you get a chance, and tell me when you are going to Montana.

Sincerely,

MICHIGAN STATE UNIVERSITY

OF AGRICULTURE AND APPLIED SCIENCE • EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

70 U.S. Embassy
Quito, Ecuador.

May 19 58

Dear Arthur:

Glad to have your interesting and
newspaper letter and to have the infor-
mation about reprints. I would like
to have 200 copies (all told) 75 + 125
and will certainly want to share my
part of the financial "burden". I think
it should make an interesting paper,
and as you say, one that will be in
some demand. We certainly should have
the map.

Am just leaving on a trip so do not
have time to write a real reply to your
good letter. Expect to be home by
June 7. Cordially
Jerry.

Para abrir correos aquí →



↑
Dóblese aquí
↓

H. A. M. Scott
2824 Dante St.
New Orleans
Louisiana

EE UU

← Dóblese aquí →

Remitente G W Prescott
To U.S. Embassy
Quito, Ecuador

Digitized by Hunt Institute for Botanical Documentation

Los Aerogramas no deben contener ningún anexo.
De contravenir esta disposición se cobrará un
porte adicional o se enviará esta pieza por correo
ordinario.

% U. S. Embassy
Quito, Ecuador

May 28, 1958

Dear Arthur:

Shall be home in a few days or a couple of weeks (about ten days, I think) and shall check on the possibility of sending a reprint to Brooke. I am afraid that I am also 'out', but may be able to locate one in my files. Have just returned from an amazing trip into the oriente and the Amazon basin. What a world of forest and snakes and Indians. Collected hard on a lake called Limon Cocha, so-called because of its 'lemon' or lime color. Have not had a chance to examine collections yet but they should be very good--at least highly interesting for it is the first time in history that any botanist has visited the place--reached only by plane (or by three weeks of jungle travel on foot or canoe).

I shall be leaving for Montana soon after June 15. Supposed to be there around June 20 or 21. Meanwhile let me hear from you.

Hurriedly (because of pressure of lab work here and final preparations)--

Jerry

Letter from Sachlen states he is worried about
you - not having heard for some time.

Where did you find that fine 5 cent U.S. stamp?

Are there any more to be had?

June 7 1958

Dear Jerry,

Welcome back to the good old USA; I'll bet Tess is glad to have you home again, where she can keep an eye or both eyes on you. Evidently there are still risks attached to exploring in those undeveloped tropical countries, even though they may not be as serious as those described by Lagerheim in his 1892 paper "Ueber das Sammeln von Süßwasser-Algen in den Tropen", written while he was teaching at Quito, in 1892.

That must have been wonderful trip down to the Amazon basin, and I hope that you caught plenty of new desmids down there, especially in the lemon-colored lake. But you can't sometimes always tell; I have a series of collections from the Rio Negro, a tributary of the Amazon, that are extremely poor in desmids, though I should have expected more from the high acidity of the water, around pH 4.0

The 8¢ Magsaysay stamp was issued early this year, I believe, and they are probably all sold out by this time. I bought up the last that our local branch post-office had, and am enclosing six of them for you. Mrs. Perine, who inks my drawings, has a son who is now 10 years old and is starting to collect stamps, so I am saving all of my foreign ones for him. If you get any pretty stamps that you don't want I should be glad if you would send me some from time to time.

It is true that I have neglected Sachlan for a few months, but there was really not much to write about. However, on receipt of your letter I wrote him telling of the progress that I am making on the big Indonesian paper, and he has it by this time. I have just finished Xanthidium, halfway down Plate #41, and am starting on Staurostrum, so the total number of plates will be near 60!

Enclosed is the rough draft of a new short paper for Reinwardtia, on the transfer of *Micrasperias Möbii* to *Euastrum moebii*, with drawings of two new forms. Please look this over when you get a chance, and make any changes that you think are required. Please return the drawings; they are my originals. I wonder how you will like the numerical tabulation at the end of the paper. It's a new idea, anyway, and I think it shows in a striking fashion the preponderance of evidence in favor of *Euastrum*. Would you mind checking your card index to see if there are any more named varieties besides those that I have listed?

Summer has started here with a bang. For the last week the daytime temperatures have been 90-92, though fortunately the nights are reasonably cool.

Best regards to you and Tess from Edith and myself.

Sincerely,

June 9 1958

Dear Jerry,

In the paper on Euastrum moebii I forgot to include a feature that may be of considerable importance: the chloroplast.

All of the forms of this plant that I have seen, namely var. burmense, tetrachastriforme fa. latum, diplocanthylum, and insolitum Scott & Prescott, 1958, have a tetracentric chloroplast (Teiling 1952). I don't know much about chloroplasts nor their importance in taxonomy, and particularly I do not have Carter's two papers, 1919 and 1920, so that I have very few illustrations to refer to. The only ~~paper~~ paper I have on the subject is Teiling 1952, in which we states that Micrasterias has a furcate discoid or dicentric chloroplast, and that only in M. Möbii is it tetracentric as illustrated by Gutwinski 1902. On the other hand the tetracentric chloroplast is common in several species of Euastrum, including E. turgidum which is so closely similar to E. moebii that if I had seen more than two or three specimens I would be inclined to make it a variety of moebii. I don't know if this would be permissible from the nomenclatural standpoint, because turgidum was named by Wallich in 1860, while moebii was not discovered until 1894.

If you think the chloroplast is of sufficient importance you might write another paragraph for the paper, and include another line in the tabulation of "points".

Sincerely,

June 26, 1958

Estimado Arturo:

At last I am grooved in here at Flathead lake and can begin to catch up on correspondence and some other neglected obligations and pleasant duties.

I sent you a note in a hurry from East Lansing mentioning the names of varieties of *M. Moebii* which I had on file. It seems to me that there was one name I listed which I do not have on 'tap' here, but this is the list as I have it now:

Micrasterias Moebii (Borge) West & West.

(I do not have my literature here. Is this a W & W assignment or a W. West (only) assignment?) I know that W & W are the authors of the paper, but for some reason

I have a faint memory of this having been assigned by W. West alone. Krieger gives W & W as the authorship, however.

- M. Moebii* var. *Ridleyi* West & West
- M. Moebii* var. *tetrachastriformis* West & West
- M. Moebii* var. *javanica* Gutwinski
- M. Moebii* var. *Burmense* West
- M. Moebii* var. *integrum* West
- M. Moebii* var. *luzonensis* Behre

Scanning the varieties and forms of both *Euastrum turgidum* Wallich and *M. Moebii* one is immediately impressed with the intergradation--mostly through the var. *Grunowii* Turner. Several interpretations of this *Euastrum turgidum* var. *Grunowii* by various workers (as shown by iconograph figures) indicate that the original typical variety has been misinterpreted. If Turner was correct in his observations and delineation then Bernard's idea of var. *Grunowii* is (to my notion) something else-- and I think the something else is a relationship (if not an identification) with the species called *Micraster* as *Moebii*. Bernard's figure 219 (1908) most certainly appears to be a *Micrasterias Moebii*. To be sure, there are as many slight differences between typical *M. Moebii* and typical *E. turgidum* as there are between some species of *Euastrum* on the one hand, and between different species of *Micrasterias* on the other. But these differences are slight enough, it seems to me, to make it reasonable to group these two entities and their varieties. In other words (simply) if *Micrasterias Moebii* becomes a *Euastrum*, then it most certainly is related to *Euastrum turgidum*. If we feel that this is a reasonable assignment for *M. Moebii*, then we are faced with priority and inasmuch as there is a species of *Euastrum* already established for this type of plant, then our transfer of *M. Moebii* to *Euastrum* should be to the species *turgidum* and we should consider *M. Moebii* (typical) and varieties of *M. Moebii* as varieties of *Euastrum turgidum*. I think you agree with this as indicated in your letter of June 9. Thus we should consider whether the paper which you have so well prepared should not be written to combine the two species into *Euastrum turgidum*. I think we would be doing students of the desmids a favor.

Should we not use the *Moebii* spelling for this plant rather than *Möbii*? I do not have Borge's original paper here, so cannot check on which form he used, but of course *Möbii* was incorrect if he used it.

I dare say you are putting up with some hot weather. I wish you were here where it is delightfully warm-cool, although we have had in past years some days which were more than warm but quite endurable, especially because the nights are always restful. Have you made any plans for summer collecting? Hope you are both well. Let me hear from you when you can find time from your heavy drawing assignment. Cordially-

Jmy

P.S. - I like the evolution scoring table idea very much.
Chow!

July 17 1958

Dear Jerry,

Following your suggestions, I decided to change the name of *M. moebii* to *E. turgidum* var. *moebii*. I first found *E. turgidum* a couple of years ago in one of the last samples that Sachlan sent me, and I made two drawings showing slightly differing forms. After comparing them with the illustrations in Krieger I found that both of them could be referred to the specific form, so I labelled them as such, and did no more about them.

A few days ago I retyped the first part of the paper, down to and including the table of "points", all of which required only minor changes in the wording. Then it became necessary to make a detailed comparison of *M. moebii* with *E. turgidum*, and to show just what resemblances and differences exist between them. This is not easy because the two intergrade to such an extent that it is sometimes difficult to decide which is which. So I started digging further into the literature, looking up the illustrations of Turner, Raciborski, Moebius, Borge, Bernard, and finally Playfair.

Then the whole thing blew up right in my face, to the accompaniment of some loud cussing, for, believe it or not, just half-a-century ago old man Playfair formally made the transfer of *M. moebii* to *E. turgidum* var. *moebii* Playf., together with var. *ridleyi* W&W. . He devotes more than a page of text to the argument, basing the change principally on the morphology, but also adducing the scrobiculate cell wall, and the chloroplast arrangement in four parietal plates.

Of course I should have remembered this, because I have had a complete set of Playfair's papers since 1951, and had to refer to them frequently in connection with our Australian and Indonesian papers. My only excuses are my memory, which has been deteriorating during the last few years, and the fact that I have not had to investigate *E. turgidum* until now. But it is quite strange that neither you, nor Hannah Crossdale, nor Teiling, nor Grönblad knew about (or remembered if they did know) the transfer by Playfair. Teiling in fact proposed a transfer to *Euastrum* in his 1957 paper on Asymmetry in Desmids, and yet he is the one who told me how to obtain Playfair's papers from Australia. Grönblad suggested to me when I was in Finland in 1955 that I should write up such a transfer, because he knew that I had seen quite a lot of *M. moebii*, including some new varieties.

Here's another curious sidelight on this affair. A month ago I received an unexpected letter from Prof. J. Heimans, whom I met and talked with for an hour between planes in Amsterdam on my way to Stockholm. On receipt of the letter I guessed that someone had suggested that he write me, and later it turned out that Grönblad had made the suggestion. Anyway, Heimans wrote that he had received a lot of very rich desmid samples from a colleague and former pupil in Sumatra, and that it would be easy to identify a majority of the desmids with the help of Krieger's papers, and that some of the others would be new. (He'll need a hell of a lot more papers besides Krieger's!). Further he wrote:

"In these Sumatra samples quite a range of forms is to be found of e.g. the species *M. moebii* (Borge) W&W. I quite agree with Teiling that this species can better be brought back under *Euastrum* in the group of *E. 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* cannot 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. Of course 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".

In reply I wrote Heimans that I am now engaged in drawing the plates for a paper, to be published jointly with you, that will describe more than 500 desmid taxa from Indonesia, with some 60 plates of illustrations, but that it would not be published until next year. I hoped this might induce him to wait for its appearance, because it would be unfortunate if two papers appeared nearly simultaneously with desmids differing names for new species, as was the case with the two papers on Sudanese ~~papers~~ by Bourrelly and by Grönblad, Prowse & Scott. Also I told him that I had written a paper transferring M. moebii back to Euastrum and that it was then in your hands for approval. As to his genus "Verrucastrum" I told him, though more politely, that I did not think much of the idea, and pointed out some of the reasons; also I said that if he did publish the new genus I thought it would not be accepted by desmidologists and would eventually fall into desuetude along with the dozens of other generic names that have been proposed during the last 100 years. He has not replied, though there has been time even if he wrote by ordinary mail, not airmail. Now, of course, I shall have to write him again and tell him about Playfair's transfer.

After the explosion my first impulse was to abandon the paper on M. moebii, and in our new large paper simply to use Playfair's terminology with some words of explanation as to our preference for Euastrum. After thinking the matter over for a day (and a night) I have begun to revise this opinion, and to think that it may still be desirable to publish it with the necessary alterations. Playfair's works are not well known, and not easily accessible. Most desmidologists rely heavily on Krieger for the genera that he covered, as I do too, and I expect that some of them would rather accept his opinion rather than that of a comparative unknown like Playfair. Perhaps my detailed analysis of the plant's characteristics, which goes into much more detail than Playfair did, might help to convince some who would otherwise remain doubting Thomases! However, before writing any more on this subject I would have to check some of ~~his~~^{his} papers published subsequently to Playfair's 1908 paper, to see if ~~they~~^{he} made any comments. He ~~has~~ published several short papers in the Journal of Botany, 1909b,c,d, 1912a, which I do not have, but there is a file of bound volumes of this Journal in the private library of Prof. Jos. Ewan at Tulene. I just phoned Tulene and find that Prof. Ewan is away in Philadelphia, but they will get a key to his office for me, so I'll go there next week and see what I can find. You may remember that Playfair had a controversy with G.S. West concerning P's peculiar theory of polymorphism in desmids.

In the meantime please tell me whether you think I should go ahead with the changed paper. If you say so, I'll rewrite it and submit it to you again for approval.

Edith and I are both well, and hope you are also. So far we haven't suffered too much heat, for there have been heavy thunderstorms nearly every day, which bring the cold air from aloft down to earth. Already in July we have had the whole month's normal rainfall, of about 6". Our worst months are ~~July~~ August and September.

Best regards from

Is there anyone now at MSU who can check a name for me in your card index? In our paper on S.E. USA Grönblad used the name Spondylosium clepsydra for a new species, but it turns out that this name had previously been used by Messikommer for a different plant. So I suggested that it be changed to Sp. horamstrum, but we want to make sure that this one is not pre-empted also. Grönblad has a new paper on Italian desmids just going to press and would like to include the correction in it.

Biological Station
Big Fork, Montana

July 20, 1958

Dear Arthur:

Have just received your interesting letter, with the surprising news relative to *Mic. moebii*. The Playfair transfer was 'news' to me also. I have not seen his paper-- although it would seem that I must have used it at one time or another--but I have not had that particular paper photostated and do not have his transfer figured in the iconography--if he illustrated the plant at the time that he wrote about it. I do have his paper in which he wrote on var. *Auburnense*, var. *Gruncowii* and var. *crux-australis* of *Euastrum turgidum*. That was in Proc. Linn. Soc. N.S. Wales 33, 1908. Perhaps he wrote on *E. turgidum* in this same paper and did not figure the plant. In any case Krieger did know about it because he lists *Euastrum turgidum* var. *Moebii* (West & West) Playfair 1908, p. 610 in his synonyms and excluded species in his treatment of *Euastrum* (p. 658, Rab. Krypt. Flora). I wish that I could obtain the remainder of Playfair's papers--I do have some that I obtained through the library a few years ago when you found out about their availability (I believe it was you who found out that they were on exchange or sale). In any case, a paper on systematics is in order, I think, based on recent observations and the desirability of putting the other varieties under the same species, and putting into recent literature the transfer that was made by Playfair, and at the same time straightening out Krieger.

I do hope that the paper in preparation can appear before and not at the same time as Heimann's, for undoubtedly a lot of the things he has found as new are in this paper and it would be sad to confound the nomenclature with more synonyms. I do not agree that this *Microsterias-Euastrum* combination should be forced into a new genus tax-- although his name is very appropriate and would be useful to take care of at least this one anomalous group of plants (*Moebii* and its variations). I do not see how it could include all of Krieger's Nos. 130-147--but perhaps it could be made to do so. Anyway--let us hope that he does not go through with his proposal.

So-- I hope you will continue with your revised thoughts on abandoning the paper you have prepared, and re-write it in the light of recently acquired information. It will be valuable to other students, as you suggest, by bringing the history up to date. I wish I were back in the lab where I could get at my literature file and to help you a little in checking this thing out in subsequent papers (West's, etc.)

I have no record here of *horametrum* being used for *Spondylosium*. Was *S. clepsydra* first used by Messikommer or by Beck-Managetta? I have a ~~very~~ fa. *latior* Messik. of *S. clepsydra*, but not the typical. This means that I need to get an illustration of Messikommers original figure for the iconograph if he did name the species. I do not have my card file here--which is a handicap. Phil Halicki may be in East Lansing still, and if so I shall ask him to check this name for you. He went to Alaska on an expedition with Dr. Canton--and then had to be returned abruptly with a gall-bladder complication; was hoping to return to Alaska, but was not sure the last time I heard from him.

At the moment I am a bachelor--Tess having run off to Oregon to see her folks for a while. We shall return to Michigan early this year on account of the meetings in August and to be at home when the youngsters have their vacation. In between times I am going to make a trek into the famous sand-hill region of Nebraska and check out the desmid ponds there--a region which has been poorly represented in desmid literature; but one which should be 'rich.'

Hope you have good luck on the weather. Would certainly like to send you and Edith a car load of our refreshing mountain air--warm but not hot during the day and cool and sleepable at night. Also I wish I could send you a big box of Flathead cherries which are very fine this year. Best regards to you both-- until later--

Jimmy

Thank you for the foreign stamps

u
J. H. M.

Sept 15 1958

Dear Jerry,

One more package of 9 reprints has come to hand, making a total of 90. The last package of 10 evidently is lost and there is little hope of receiving it now. The delayed package had been rewrapped in San Francisco.

The cost of having new printed and folded covers made was too high, so for the last few days I have been busy reconditioning the books, straightening out the pages and gluing a strip of tape on the backs to hold the covers and make them more durable. When I ran out of the ordinary gummed paper tape I went to Woolworth's to buy another roll, but I found a new product that is much better, Scotch Carton Sealing Tape, made of plastic and self-sticking. It comes in rolls $1\frac{1}{2}$ " x 150", for 39¢, and seems to be ideal for binding, for it is not so infernally sticky as cellophane tape, though once it is pressed on to paper it won't come loose without tearing off a surface layer of the paper.

I have sent you by parcel post 5 sets of extra illustrations. The other five sets I have sent to Brunel, Croasdale, ~~Franklin~~, Teeling, Ruzicka, and Bourrelly, along with the paper itself. Also I have sent the paper only to Taylor and ^{and Renee-Marie and Grabad} is a copy of my list of correspondents and I would like you to mark thereon the names to whom you will send the paper, and I will distribute them to the others. I want to keep about 20 copies for future use, so I can only send out about 70, while there are 89 names on my list.

Spondylosium clepsydra was named by Beck-Managetta as you have noted, and the date was named by ~~Beck-Managetta~~. (Will you please check your index to see that Sp. horanstrum has not been used previously?)

Playfair's transfer of *M. Muebi* to *M. turgidum* was made in the 1908 paper that you mention, but he did not illustrate it, which is the reason you do not have it in the iconograph. I knew that Krieger had rejected the transfer, and I have now looked up what G.S. West had to say about it. It is in *Algological Notes vi-ix, Jour. Bot. Vol. 50, 1912, pp 36-37*. He merely says that Playfair had confused the two desmids.

I have been turning this matter over and over in my mind, and have now reached the conclusion that although some of the known varieties of *M. Muebi* could be assigned as varieties of *M. turgidum*, there are others, such as var. *tetrachastriforme*, M&W, var. *insolita* Scott & Presc., and var. *diplocanthylum* Scott & Presc., that differ too much from the species to be placed with it. Thus I now believe that the transfer will have to be made as *M. muebi* and varieties. However, I do not have Wallich's original illustration of *M. turgidum*, and Turner's illustrations of it are confusing, because while his side view (Pl. X, Fig. 28b) shows the upper lateral lobule and polar lobules single, his vertical view (Fig. 28c) shows both of them doubled; also he shows the central tumor granulate in all four views, which seems improbable, because I believe that all other authors show it as scrobiculate, which is the case in the few specimens that I have seen. Therefore I would like you either to make a tracing of Wallich's original illustration, or if you care to, lend me the sheets from your iconograph with the figures of *M. turgidum*. I would take great care of them, and return them promptly.

The plates for the Indonesian paper are finished in pencil, 63 of them, and are being inked by my friend Mrs. Perine. But for the last couple of months she has been going very slowly on them, and I kinda get the impression that she is tired of the big job. If she can't finish them I shall have to find someone else, and that won't be easy. Hannah could do it, of course, if she has the time, and maybe I shall have to ask her.

Did you visit the Nebraska sand dunes, and if so what did you find?

Best regards to you and Tess.

MICHIGAN STATE COLLEGE

EAST LANSING

Sept. 15, 1958

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Dear Arthur:

Your forthright letter (a copy of which you sent me) expresses my own thoughts and sentiments precisely. I too received a box of reprints which, when I saw it sitting in the laboratory, made me wonder—who has been digging up a lot of old bulletins from the basement. They were in a horrible shape—many of the so-called covers completely torn from the reprint. Someone over there certainly has had little experience in this sort of thing—or else they just don't give a damn. Anyway I think the paper is very well printed and the plates (yours) came out very well indeed. This is a good contribution and should prove a stimulus for other work.

Counting the reprints I find that there are 130. I have forgotten how many I ordered or was supposed to have. If I ordered 100 then the other thirty are ones you were supposed to have. As soon as I can locate previous correspondence in this unholy mess here I can check—meanwhile if you know what the number is, drop me a line. You certainly are to be complimented on a fine piece of work. Have you sent a copy to Gronblad? I was about to do this along with some other papers I owe him.

Muchas gracias for the generous bundle of duplicate plates which arrived today. One of these I shall use for the iconograph. Will you let me pay you for these, please? I know you have invested pretty heavily in this paper and I would like to share the cost.

I am nearly off my rocker trying to unpack and sort and get my files, etc. in shape for a big year. Took time out to go to the AIBS meetings



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

at Bloomington which were very good this year. I wish you might have been there. Many good algal papers--many on desmids and desmid reproduction, etc. Starr and his students had some excellent demonstrations--living and prepared mounts. I hope soon to be out from under all this confusion and can think in terms of desmids and our project again. I am getting ready for 9 graduate students this year--two from Pakistan and I anticipate a well-occupied time. Just how I can do justice to all 9 students I have not figured out yet. It is interesting and stimulating to have such a crowd of eager people but it will put a strain on the time budget during a year when I am faced with a tremendous amount of microscope work. Have just bought a pair of 30-X oculars to use for my drawings and am looking into the matter of getting a small projector which I hope will project and enlarge for proper size drawings the figures in the iconograph which we will wish to use in the final report.

Inclosed please find some postage which I have been owing you a long time in exchange for those interesting commemoratives (mint) which you sent me last summer. I apologize for not doing this sooner.

Have just received a small shipment of collections from upper N. Y. state which have some desmids--have not had time to really examine them to see just how 'good' they are.

How are you getting along with your never-ending task? Has the weather been kind to you? Hope you have not had to prepare for any hurricains.

My best regards to you and Edith--until later---

Gary

G. W. Prescott

Oct 9 1958

Dear Jerry,

The University of Melbourne has not answered my letter, but Ray Specht did. He assumes responsibility for the cheapness of the reprints, and says he asked the printer to hold down the cost because I had expressed concern about it. This is quite correct, but it is no excuse for the slipshod workmanship.

Since writing you I have received two more packages of reprints, one with 9 and the other with 2, making a total of 101. So it was not necessary for you to send me the 25, and if you run short I can return some or all of them to you. Did you receive any more? You were supposed to get 150.

Also I received the copies of papers that you submitted for the Barbaker prize award. I haven't heard anything from Dr. Papenfuss, and I suppose that means that somebody else won the award. Many thanks for your efforts, all the same.

I should like to know how you make out with the 30x oculars; it seems to me that the definition will be too poor for them to be of much use, particularly with the very small desmids. I think my way is better, using 20x oculars, and with the mirror separated from the microscope and carried on a separate stand, increasing the distance from the prism to the paper, this getting a larger drawing, and removing the paper from the base of the instrument, where the control knobs frequently interfere with the image. I also sometimes introduce a negative lens of about nine diopters between the mirror and paper, which also has the effect of enlarging the drawing.

For enlarging illustrations from books I have occasionally used an S.V.E. 35mm film projector, originally intended for projecting microfilm for reading. I removed the 35mm mask, and thus got an opening about 40mm square, which will take care of most desmid illustrations, but not all. The trouble with these and other similar projectors is that the lens has too long a focus, usually 5". So I made another lens using war surplus lenses mounted in a cylindrical piece of wood that I turned to fit the barrel of the machine. Then I traced the illustration on very thin and transparent paper, inserted it in the machine, and projected the image on to another piece of paper attached to the wall. Not very convenient, but it worked.

What you need is an opaque projector with a special short focus lens, probably about $2\frac{1}{2}$ " focus. The machine should be mounted vertically and adjustably so as to project on to a horizontal drawing surface. I believe such opaque projectors are quite expensive, but I have seen advertisements of a toy machine, selling for about \$5, that might be worth investigating. I shall try to find the ad and send it to you.

I have frequently had occasion to make slight enlargements or reductions of my camera lucida sketches to fit available spaces on my plates. For this I use a #4273 Pentagraph, made by F. Weber Co., Philadelphia, which can be bought at art supply stores. This is a cheap device for which I paid about \$4 many years ago. The bars are made of hard wood, and there is so much friction in the joints that the drawing which it produces is very rough and needs considerable "fairing up". It will enlarge, or reduce, in various ratios from $1\frac{1}{2}$:1 up to 3:1.

Another device that might be useful is called a Prismascope, used by commercial artists for enlarging or reducing. I have seen only an illustration of the instrument, which consists of a prism, similar to that of the camera lucida,

mounted on a horizontal arm which in turn is adjustable on a vertical rod. The drawing to be copied is mounted vertically, and by looking through the prism you can see both the copy and the drawing paper at the same time. Variations of enlargement or reduction is made by varying the distance from the prism to the copy and to the drawing paper. Strong illumination of the copy will probably be required. You can doubtless get information about this from your dealer in artist's supplies.

Glad to say that I have finished the plates for the Indonesian paper, 63 of them, and Mrs. Perine is now inking them, though she is going very slowly. Hannah is now doing the Latin diagnoses. When I get them back I will write the introduction and then send you the rough draft for criticism before typing it up in final form.

Ever since my hospitalization in April 1957 with what my doctor called a congestive heart failure triggered by a virus infection, he has warned me, and repeated it more emphatically last week, that I must be extremely careful not to overexert myself, by which he means doing anything that will cause me to become out of breath. One result of this is that I have reluctantly come to the conclusion that I shall not be able to do any more collecting. I have been wanting to drive up to northwest Louisiana to make some gatherings from the several lakes for which I obtained water analyses, but I am afraid that this is now out of the question. So I am sending you the analyses, and can only hope that you can get someone else to make collections from these lakes, if lists of desmids are necessary. I happen to have a collection from only one lake in the list, Lake Bistineau; this has a fair assortment of desmids, mostly cosmopolitans, the only notable one being *Cosm. scrobiculosum*. There are more diatoms than desmids, and though I cannot identify them to species, it seems to me that the diatoms are all soft-water forms. The pH is 7.1 on the analysis.

Also it appears that I shall not be able to do much more work with the microscope. For several years a cataract had been developing in my right eye, and has now reached the point where it is rather bothersome in reading. Eventually I shall have to have an operation for its removal, and that would put an end to my camera lucida drawing, for I cannot see any way to do that with one eye, and I should be reluctant to risk it even if it could be done.

Next week I will send you some of my original plate drawings for papers that have already been published. These are of no further use to me, so you may keep them and cut them up for use in the monograph.

Best regards from

P.S. Please return my mailing list as soon as you can.

Oct. 15, 1958

Dear Arthur:

I was glad to have your letter today, but very sorry and disturbed to learn of your doctor's advice. Of course you must be on the safe side and act according to his advice--but I bet he is overly cautious, just to be certain that you keep your activities at a slow gait. It will be difficult for you to curtail your field work--a relaxation for you and rewarding for all phycologists. I dare say you can make easy trips round and about without putting any undue strain on yourself. How do you feel in general? If your health is good you should be able to carry on as usual--using care that you do not tire yourself. It would be interesting for you and helpful for all of us and the project in particular if you could get to NW Louisiana. Perhaps someone could drive for you--or if not maybe I can get into that area at a suitable time. I would be surprised if many, if any of the lakes and swamps in that area are soft or acid. I found none--except one curious little swamp in a grassy glade that had some organic acids and had a fair display of desmids. I sampled quite a number of bodies of water, both on the Louisiana and the Texas side of the line. I do hope your eye condition does not develop to such a serious state that you will need an operation--but in case you had to have a cataract removed, would that interfere greatly after treatment? One would have to experiment, of course, and do what can be done and no more. That is what we all have to do all the time anyway--there is just so much that one can do and get done in this world because of time and circumstance.

Papenfuss spoke highly of your work. He mentioned among other things, that the award was made on the basis of more generalized works. I do not know who received it this year. For my 'money' your contribution has been sufficiently great to merit an award--but there seems to be a disposition not to regard strictly systematic studies as suitable for consideration in making awards.

Thank you for the 'ad'. That certainly 'sounds' like an instrument that should be tried out. I think I shall send and get one and give it a try. Meanwhile I am still waiting for word from Don (my son-in-law) who has an Amer. Op. machine ordinarily used for partially blind persons which throws an image that would be suitable for our work. He took some plates with him when he visited here a short time ago and was going to try them on the machine he had at his office and then send me the results. So far--I am still waiting. He has a machine which could be purchased at a 'used' price and well within the range of possibilities--but of course it would cost much more than the little machine described in the ad from Detroit. We are going to have a tremendous amount of that transferring to do. One of my current disappointments is that the two men who I had engaged to come here as research assistants failed to materialize so here I am holding the bag with all sorts of work and plans, and a research grant to pay the salary--and no one to help me. Bill Wade is too involved in other things to give me any aid. Am trying to work out something.

I have one of those pantographs you described--or one like it. It does very well for some things--but of course, as you state, it gives only a very rough figure. I may press that into service for some transfers. I used to use one of those Walton prism camera lucidas--not bad--but hard on the eyes. There was one at Iowa that I used when making drawings.

What a tremendous work you have turned out on the Indonesian algae. Sixty-three plates! This will be a monumental work. I shall be anxious to see the forms which you have turned up. I have forgotten--are there publication plans already made for this paper.

Yes--another bundle of reprints came along, some time after the others. I suppose I must have all of them by now. To be sure, one would be interested in inexpensive

covers--but that does not mean that the separates had to be handled as they were. If they had only packaged them sensibly they would have not arrived in such a deplorable shape. I am inclosing your list of exchange names. I have marked with an o the names to whom I have or will send reprints. Also I am inclosing a list of other names to whom I have sent the Arnhem Land paper. Thank you for sending me this list. I intended to get it back to you long ago. Life has been sort of demanding and complicated these past two weeks since school started. I am working with 8 Ph.D. candidates in algae. They all have different sorts of problems and it keeps things very lively and interesting--but also distracting. Next year I shall have 5 more so it does not look as though there would be any let-up in algal work for a while. However, one of the boys will have been finished by that time--so that will be one off the list.

Just as I thought, the 30-X oculars do not give an adequate image for good camera lucida work. The enlargement helps somewhat, but of course one loses a great deal in other respects with so much magnification. I like to use a water immersion lens and get a large figure that way. Yes, your scheme is ideal and I am still going to find time to mount a magnifying glass and put that scheme into operation.

I am very grateful for the water analyses which you sent. These will help materially in building up some ecological correlations when it comes time to make some generalizations about desmid habitats. One of my students this year is tackling the job of sitting down with two distinct types of bog lakes and will do a year-around study of both the biota and the chemistry--and I am hoping his findings will be highly pertinent. You sent me some analyses once before and I have these catalogued and ready for correlations.

I have just finished the plates for my Panama Canal desmids. I made the mistake of engaging some help with them. The help was conscientious but not skillful enough so that I have had to do a great mess of patching and correcting--and the results are not to my liking, but I guess I shall have to let them go as is because I simply do not have the time to remake them. The next job is to find a place where they can be published. I have had an agreement with Ohio Academy of Science since other papers on Panama have been there--but I am afraid they will balk at 12 plates.

How is Edith? Well, I hope. How we would like to have you pay us a visit--especially before it gets cold. I am sure we could make you comfortable at the house--although our bedrooms are all up stairs. We are recovering from the complications arising from having a new bath room installation--furniture--tiles--the works. A train would bring you straight to Lansing--with a change at Chicago.

Have you heard from or about Sachlan? He was planning on coming to this country this fall and was going to make a grand tour--but I have heard nothing more from him since last summer. Have you seen Irene-Marie's latest effort on *Trustrum*? He has a few new forms and a variety or two--no new species I believe--and only one plate of figures.

I shall try to be more sociable in the future with letter writing. Let me hear from you--and of how you are--and let me know when you can arrive. I know a trip would be complicated for you in some ways--but you need a change. I shall have to be away on two or three short trips this fall--but shall be here most of the time. Best regards until later--

Jany

Oct 19 1958

Dear Jerry,

Thanks for your nice long letter. It is very kind of you to invite us to East Lansing, but there is no chance of my leaving before finishing the Indonesian paper, which is approaching the final stage, and by the time it is complete it will be much too cold to think of going to Michigan. Perhaps next year we might manage it.

There is no doubt that my doctor is over cautious, but I know only too well that my state of health is declining. I get out of breath after walking only two blocks, and after four blocks I must find a place to sit down and rest because my legs give out. There are other things wrong with me; one of the most annoying is that I don't dare get very far from a toilet, which I have to visit for one purpose or the other, every hour during the day, and sometimes even more frequently. And the doctor says that all these ailments are due to old age, and there's nothing that can be done for them.

Sachlan wrote me in September that he was busy making preparations for his visit to this country, but I gathered that he did not know definitely whether he would get the grant. A few days ago I wrote a letter of recommendation to the Carnegie Corporation on behalf of Prowse from Malacca, who had applied for a travel grant to visit Universities and Biological Stations in the USA. He is going home to England on leave, by way of Australia and the USA, and expects to visit us in New Orleans in December. If he gets the grant he would, of course, be able to take in many more places, and he wrote that he might visit you.

Yes, Irénée-Marie sent me his paper on Euastrum, and I was amused by his name E. pinnatum var. Pres-Scottii. It is a pity that he makes so many mistakes in spelling, particularly of proper names, like Huges for Hughes, and the consistent omission of the diaeresis in German and Swedish names, like Lütkenmüller, Nägeli, and Grönblad. I know that he is touchy, but I think I shall run the risk of offending him, and call his attention to these numerous errors.

A couple of years ago the Editor of Reinwardtia told Sachlan that he would accept our large paper, but at that time I had estimated that there would be some 35 or 40 plates. It was also before the rebellion in Sumatra, and before they kicked out all Dutch nationals, with the resulting financial troubles for the Indonesian Govt. So I am anticipating some argument about the 63 plates, but I have managed to arrange the paper so that it can be split into two almost equal parts: the first would take in the genera up to and including Cosmarium, with 32 plates; the second part would have all the remaining genera, with 31 plates. If it becomes necessary I will offer to help pay for the plates.

But before sending in the large paper, I want to submit the small one dealing with Euastrum Moebii, and here I must remind you that you overlooked answering my letter of Sept 15, in which I wrote that I believe some of the varieties of this plant differ too much from Euastrum turgidum to be assigned to it. Also I asked you to lend me your iconograph sheets of E. turgidum, and particularly the one with Wallich's original illustration. So please try to find time to pack them and send them to me.

Has your Brazilian paper been published yet? If so don't forget to send me a reprint.

Sincerely,

Dec 13 1958

Dear Jerry,

Enclosed are the illustrations of *Euastrum turgidum* from your iconograph; many thanks for lending them. I had to keep them longer than I had expected because your collection does not include the type illustration from Wallich 1860, so I had to look for it elsewhere. Finally Prof. Brunel obtained the original paper and copied one of the plates and the accompanying text for me. I will write more about this later.

Dr. Gerald A. Prowse, from Malacca, will visit us in New Orleans on Dec 21-23, on his way home to England on leave, and in his letter he says "I shall be going on later to see Dr. Prescott, if he is available, and in any case I hope to see something of the University".

I know that you generally go away for the Christmas holidays, either to the AAAS convention, or to see your daughter and son-in-law and grandchildren. Prowse is travelling on very limited financial resources, so it seems to me that it would not be much use in his going to Lansing while you are away, nor would he be able to see much of the University during the holidays.

Would you therefore let me know, not later than Monday the 22nd, when you will be available?

Mr. H. Sachlan, from Java, also wrote that he expected to be in New Orleans about Christmas time, but I have heard nothing from him for several months, and don't know whether he got his grant or not. It would be nice if both of them got here at the same time, though it would rather strain our accommodations to put up two of them.

Best wishes for Christmas and the New Year to you and Tess, from Edith and myself.

Sincerely,

1-9-58

Dear Arthur:

Am so sorry to learn of your rib disability. You did not say anything about it yourself but Edith mentioned it and Prowse did. I intended to write you much sooner. My life has not been my own this past few months - unless one could say that it has been of my own making. I am not complaining - only I regret not being able to do my own work. I work over collections for this, that and the other person - push through the A.M.S. duties - and answer letters of inquiry. One day - so help me I shall get back to Ardean algae. I do hope you are feeling much better. Broken ribs can be so terribly painful - and every little movement is a fresh little pain. How are you coming with that first collection of plates? I think you said you had completed them & I suppose the printing is underway. Saehlen writes that he will not be here until Spring. I hope he arrives before we have to leave for Montane. Our best wishes to you & Edith -

Henry

Jan 15 1959

Dear Jerry,

In every letter that I get from you it appears that you are running at full speed trying to catch up with yourself, but never succeed. When are you going to take some of all those irons out of the fire?

My two ribs are healed now; they were not really broken, just cracked. It happened while sitting before this typewriter. I reached round to get a reference book from a table behind me, and put too much pressure on my ribs against the back of the chair, which is an ordinary kitchen chair. I did a similar thing many years ago while sitting in my armchair at the head of the dinner table. My napkin slipped to the floor, and I bent over sideways to pick it up, again pressing one rib on the arm of the chair.

Sachlan wrote me also that his visit to USA was postponed until Spring, but a week ago I received a letter from the U.S. Fish & Wildlife Service in Washington saying that the International Cooperation Administration had asked them to arrange a program of training for him. They said that according to present plans he will be in Auburn, Ala., during the summer and up to about Aug. 23, and will go from there to Galveston, Tex., and that it would be possible to schedule him for a stop in New Orleans on his way to Galveston or on his return about two weeks later. (What do they have in Auburn and Galveston?).

I replied that Aug. 23 would not be suitable because then I expect to be in Montreal for the Internat. Bot. Congress, but that two weeks later would be OK. I have no information as to the remainder of his itinerary. No doubt you will leave for Montana early in June and return about Aug 15; also I hope to see you in Montreal. You might let me know your schedule in case the question comes up about Sachlan, for I know he wants to see you.

Yes, the 63 plates for the big Indonesian paper are all inked, and Hannah has sent me about 75% of the 140-odd Latin diagnoses for the new taxa. I made a rough count, which must be rechecked, of the total taxa, which showed 536, and this, by a strange coincidence, is exactly the number claimed by Turner for the desmids in his 1892 paper. My final total will probably differ slightly, and Turner's number is considerably too large, as M&W pointed out. I have also written a short introduction, a list of habitats with collector's names, and pH values, and a very long list of "References Cited", giving the original reference for every taxon in the paper. This was a tiresome job, especially with my slender bibliographical resources, but I managed to dig out every one of them, with the help of your Bibliographia Desmidiacearum, Krieger, and West & West, and by reference to the original papers after about 1950. This list had to be prepared in a special style, because Reinwardt has the crazy habit of inserting the word "In" between the title of the paper and the name of the journal in which it appeared. Also when there are two or more successive papers in the same journal they do not use the word "Ibid.", but repeat the abbreviated name of the journal, no matter how long.

Before the big paper appears I want to publish a smaller one that will transfer *M. moebii* to *Euastrum*, as *E. moebii* (Borge) Scott & Presc. comb. nov. Also I had thought of including *E. turgidum* Wall. in the group, which would then have to be called *E. turgidum* Wall. with var. *moebii* Playf. and some other varieties. But it seemed to me that some of the forms that I have found in recent years are too far removed from the original concept of *E. turgidum* to be included without considerable

stretching, and now that I have seen Wallich's original illustration, copied by Brunel, my doubts are still stronger. It seems to me that both Wallich's and Turner's drawings show a plant that differs considerably from what later authors have called *E. turgidum*. However, both Wallich's drawings and Turner's seem suspicious to me, as I think they will to anyone well acquainted with the genus *Euastrum*, and no doubt it is for this reason that Krieger disregarded them in his monograph, and substituted an illustration by Okada for the type. Both Wallich and Turner show extremely large central tumours, much too large I should think, and it would be really extraordinary for two such circular tumours to touch each other at the isthmus. However, it cannot be denied that there may exist an Indian form of the plant corresponding to these old illustrations, with an extremely large and granulate central tumour.

In Teiling's 1957 paper on Asymmetry in Desmids, p.55, he comments on *M. moebii*, and says that it must be assigned to *Euastrum* as did its discoverer Moebius, but he did not make the formal transfer. I wrote him about my problems with these two plants, and he came back with the suggestion that perhaps they represent divergent evolutionary lines descended from a common ancestor, and that they now differ so much that they are correctly assigned to different species, though not to different genera, which looks plausible, at least. He further wrote that until further evidence is available concerning the Indian forms of *E. turgidum* he "finds it convenient" not to combine *E. turgidum* with *E. moebii*.

Enclosed are two blueprints showing the various forms of these plants that I have found in Indonesia, and one new variety from N. Australia (Var. *dinlocanthium*). The larger sheet is Pl. 12 of the big paper; the smaller one is intended for the short preliminary paper. Figs. 4 & 5 on Pl. 12 show two slightly differing plants that I have assigned to *E. turgidum* Wall., following Krieger's interpretation; possibly Fig. 5 might be called var. *simplex*, though it does not correspond very well with Krieger's illustration.

So my conclusion is to transfer *M. moebii* to *Euastrum*, as *E. moebii* (Borce) ~~Boerl. & Griseb. comb. nov.~~, but to leave *E. turgidum* like unless and until I get more evidence. Please try to stop running long enough to look at these drawings (which you may keep), and consider my arguments, and then give me your opinion. However, in the shorter paper I intend to offer some comments on *E. turgidum*, and try to show how it may be differentiated from *M. moebii*, because that is really a puzzle.

In spare moments I am working on a small lot of 5 tubes of material from Uganda, sent me by Grönblad who has already gone through them. They are not so good as the Sudan stuff, but they have some of the unusual African species like *St. fuelleborni* and *A. subtrilobatum*, and I think I have one new species of *Stauroastrum*.

Prowse was here for two days and we enjoyed his visit, but I must confess that I was a little disappointed by his apparent lack of interest in my lab., my microscope set-up, my collections, library, and methods of working. On the second day we took him for a drive along the Gulf Coast as far as Bixby and Ocean Springs, and again he displayed little interest. Of course we have no splendid scenery like he has seen in Malaya, Fiji and Hawaii, and again, after travelling halfway around the world in five or six weeks, perhaps his mind is somewhat dulled to new impressions. I identified some of his drawings for him; they are much improved over those he made while in Khartoum, which were too amateurish for Grönblad to use in our Sudan paper.

Today is our 39th wedding anniversary, so Edith is taking me out for dinner tonight. I told her it was going to cost her \$20, but unfortunately I can no longer eat or drink enough to run the bill up that high!

Best regards to you and Tess from Edith and me.

Sincerely,

Jan. 25, 1959

Dear Arthur:

Surely glad to learn that your recalcitrant bones are back in condition. Queer how a slight strain at just the right angle can wreck things. Hope you are both OK now.

We are now in the biggest igloo I was ever in. We had a big snow fall--then a big sleet storm with layers of ice forming over the snow--and now another snow fall. I got stuck twice just getting up here this morning--the first time in the middle of the street in front of my drive. I may never get home again. This being Sunday there is not much traffic to help mash down the trails and of course the city street cleaning dept. is tucked snugly in bed.

I have examined an re-examined your drawings and those in the iconography. Your illustrations are most convincing because they show clearly show the similarities and also point up the differences in *E. turgidum* and *E. moebii*. They are beauties. You have done a good job of selecting just the right expressions to bring out the slight variations as well as the distinct differences in these plants. It cannot be denied that they suggest a genetic relationship. Possibly a lumpner would insist on grouping them--but the discriminating eye will note some consistent variations between the two, especially when the varieties are brought into consideration. I concur with you in your assignment of names. I do wish and hope, however, that in the short paper you are proposing that you would discuss the position of *E. turgidum* in relation to *E. moebii* and include an illustration of the former. This would be a good place to refer to the fact that you expect to publish subsequently on *E. turgidum* and its varieties. Congratulations on those fine drawings. I am grateful for being able to keep them for the iconograph. I shall be looking forward to seeing your short paper. I suppose you would not consider publishing it in the Transactions.

I think you and I both had about the same reaction to Dr. Prowse. Maybe he expected more than he found here. He was certainly quite cool. I was pretty busy and could not give him 24 hrs. a day for the 3 days he was here. I was glad to entertain him, but was just a bit surprised that he fully expected me to pay his hotel bill and all his meals which we ate out all the time he was here--so his visit was not an inexpensive one.

I have secured a 'reader' from Amer. Op. Co.--one of the instruments they have developed to aid the near-blind to read. It magnifies 5 times. Throws a picture (or print) onto a plate. From this drawings can be traced off quite easily. Shall begin transferring illustrations soon now. I finally have an assistant who can work 20 hrs. a week--and that will help some.

Your paper in *Reinwardtia* will be a magnificent affair. Can they handle it all in one number? Pray for us. My assistant is going to tackle the genus *Staurastrum* for a monograph. This is a tremendous undertaking but he seems to be interested and willing to spend the time.

Best regards to you and Edith. I shall try to write more promptly next time.

Jerry

January 31 1959

Dear Jerry,

I really don't understand how you people up north manage to survive such weather as you describe, and such as I read about in the paper. But even down here we get the tail-end of your cold waves, and since Christmas we have had four slight freezes, but in between we have had temperatures in the 70's. A couple of days ago it was up to 75°; today it is about 50. I wish we could move to Hawaii.

Prowse seems to have developed an economical method of travelling. During the two days he was with us he did not spend a nickel, and the only time he even offered to was when I had picked out for him some FREE road maps in a filling station near Gulfport. But I did not pay his hotel bill nor breakfasts, and I cannot figure how this subject even came up with you; I think I would have balked at that. Of course, I made allowance for the fact that he was travelling on a very slim budget; no doubt he told you that he had to get his bank in London to buy his steamer ticket from New York to London, because of the English currency restrictions, but even so there are limits to the hospitality that you can accept. Well, its another one of life's funny experiences.

The American Optical reader sounds like just what you need for enlarging illustrations; I could use it occasionally, but I suppose it is expensive, like everything they make. The enclosed tracing belongs with the set of drawings for the paper by Scott & Grönblad on Desmids of SE U.S.A. Mrs. Perkins had been using it as a sample for thickness of lines, in inking my Indonesian plates. Please put it with the rest of the set.

Grönblad writes that he is much disturbed over a proposal by Silva (P.C.Silva?) to the Botanical Congress that Ralfs 1848 as a starting point for desmid nomenclature should be rejected. He has voted against it, and says that the Czechoslovakian algologists will also, and he asks if I can raise some opposition to it in this country. I know nothing about the proposal nor his reasons, nor what he would substitute; also I don't know the procedure for such a proposal, i.e., to whom it is submitted and who can vote on it. If I could vote it would certainly be in the negative, for as Grönblad says, the results would be "catastrophal". I imagine you will agree, and if you do I think that as leader of the desmidologists in both of the Americas you might get out a mimeographed letter to all concerned. If you have a copy of Silva's proposal I should like to see it, and can return it after perusal.

Remember the two strange asymmetrical Micrasterias from the Sudan, *M. incredibilis* and *M. sudanensis*? As Grönblad was able to note in the paper, both of them were found by Kuno Thomasson in material from Lake Bangweulu in Northern Rhodesia. Now both of them have turned up again somewhere in West Africa, found by Mme. Gauthier-Lievre. She created a new genus "Allorgeis" for the first one, in a paper sent to press early in 1958, before she knew of our paper. It is really astounding that both of these wierd forms should occur together in such widely separated places, some 2500 miles apart, and certainly with no water connection between them. And in none of these three instances have any symmetrical cells been seen. For the last hundred years or more it has been thought that desmids were necessarily symmetrical, save a few instances of dichotypy which were thought to be hybrids or freaks and could be referred to known species. Then within the last five years 4 completely new species have turned up with totally different semicells, two found by me and two by Grönblad and Prowse.

What is the name of your assistant who will write a monograph on the genus *Staurostrum*, and what will the work consist of? Will it be similar to Krieger's treatment of the other genera? If so it will indeed be a tremendous job, that might well frighten even you. Does he have sufficient experience to unravel such complexes as *St. paradoxum*, *St. gracile*, *St. furcatum*, to name but a few? I have 54 new taxa in *Staurostrum* from Indonesia, more than half of them new species, the others new varieties or forms.

About 9 months ago, in May 1958, I returned to *Reinwardtia* the corrected proof of our third short paper, dealing with *St. saltans*, etc., but have heard nothing more from it. In December I asked Sachlan to tell me if it had been printed, and if so what had happened to the reprints. He did not reply, so I have asked him again and hope to get a letter from him next week. Originally I wanted to publish this series in *Hydrobiologia*, but when I mentioned it to Sachlan there was an immediate squawk. He wrote that it could not be published in *Hydrobiologia*, and must be printed in Java. I took this merely as the excessive nationalism of the new republic, for I did not then realize how much they hate the Dutch. Now that they have expelled all the Dutch nationals it is easier to understand, though I regard the expulsion as quite uncivilized. So I am sorry that it is out of the question to publish any of the series in the *Transactions*.

Two or three years ago the editor of *Reinwardtia* said he could publish the large paper in one issue, but then I had estimated about 35 or 40 plates, and did not realize how many new taxa I had (about 150), nor the great length of the text. Each quarterly issue of the journal has 64 pages, just enough for the 63 plates, and I doubt very much that the text will fit into another 64 pages. Maybe it could be printed in one number if they combine two issues and add one or two signatures. When I type the final copy I shall try to compress the text as much as possible, for instance by running the dimensions and habitats on one line, instead of taking two as I have done in the rough draft.

Sachlan's visit here is now set for early June. He will arrive from Little Rock May 31, and leave here for Auburn, Ala., on June 5. This makes four days and five nights, a little more than I had expected for, but his expenses are being paid for by Uncle Sam.

Glad to see that my ideas concerning *M. moebii* and *E. turgidum* agree with yours. Now I can revise the short paper, and will redraw the single plate to include an enlargement of Wallich's original illustration of *E. turgidum*, which is apparently not well known nor easily accessible, also my own figures of the plant. Then I will submit it to you for approval or criticism.

Enclosed is the bill from Melbourne University Press for reprints of our Arnhem Land paper, which I have paid after talking them into a reduction of five pounds, to partially compensate for the damage caused by poor packing. When you have some money in your research fund you can pay whatever proportion you think is fair.

Best regards to you and Tess.

Sincerely,

Feb. 15, 1959

Dear Arthur:

We are continuing to 'exist' and I think we shall survive. We will have only three more months of winter--unless the almanac is completely inside out. I certainly envy you folks down there.

Thank you for the additional plate. I am about to start making transfers of figures for the compilation. The AO instrument works quite well. I got it at a reduction for about \$80.00-- somewhat expensive but will do a lot of work for us--and cheaper than photographing of course.

By the way,--just to check on my failing memory--did I by chance lend you my photographed copy of West & West Vol. 5. I can think of no reason why I should have sent it, because I think you have Vol. V, but I simply cannot locate that copy anywhere--completely disappeared and nobody knows when or where they saw it last around the laboratory---so I am checking all possibilities and trying to check on my memory.

I hope that Silva's proposal will be squelched. I am certain that the majority of physiologists--at least the desmidologists will veto the proposals. I, for one, am satisfied with leaving the starting point of Desmid nomenclature with Ralfs--it should start some place--and where else could it start--would be my first question? I do not think Silva is in a very good position to have a sound opinion on it anyway--with all due respect to him and his delving into ancient literature. I think I have a copy of the proposal which I shall send you.

Has the "Allorgeia" come to light as yet? I surely would like to see what she has done with and to that anomalous *Micrasterias*. Do you know whether it has been published yet (her paper)? The whole business of asymmetry I think has developed partly because of closer scrutiny and better observation by a larger number of students (including yourself). Incidentally--have you ever seen a triradiate *Micrasterias muricata*? I cannot remember having seen one before--now I have one from the western mountains.

Will you please make out a bill to me from you for the reprints and I shall see that it is paid. As it reads the reprints were sold to you and it would not make a good instrument for claim.

The chap who is about ready to undertake a monographing of *Staurostrum* is a young fellow by the name of Schindler. He has had considerable experience with algae and especially desmids--knows what has to be looked for and is aware of the magnitude of the problem. That why is a little hesitant about tackling it. I am not urging him because if he makes up his mind to tackle the job I want him to really want to do it and to make the decision himself. It is a job that is ready to be done and I believe we have such an accumulation of material that he has a good point of departure. What do you think? He will need help from you and me. He is willing to take the time apparently--and it will take time--especially with separating some of the tangled species. I hope that he will be able to solve some of the problems with some culture work. What I am hoping that his review (if not a complete monograph) could or would be about the same treatment in kind that Krieger would use in his work. I shall not tell him that you have 54 new forms alone from Indonesia. There are plenty of frightening facets to the problem already.

Looks as though I shall miss Sachlan, unless his stay runs over into the fall or winter. I thought he was coming in April. I surely hope our paths can cross someday. We shall see.

I think I should follow up on your suggestion to block Silva's proposal. I'll look into it. Maybe I can convince him to retrack--although it is probably too late now.

Our best regards to you and Edith.

Send me a bill for \$66.70

JMM

Feb 23 1959

Dear Jerry,

I'm glad to know that your opinion of Silva's proposal is the same as Grönblad's and mine. Last week I borrowed the copy of Taxon from Prof. Joseph Ewan at Tulane, and I note that he has a good deal to say about Fungi and Desmids, he does not mention his own specialty, which I think you said is marine algae. I wonder why not. I don't think he has any right to set up his own opinion on desmids against such an authority as Nordstedt who first proposed Halls as the starting point, nor against specialists as you, Grönblad, Teiling, Borge, Irene-Marie and Krieger, who have spent most of their lives working on the group. I don't include myself in this category, though I have studied desmids for 20 years now, because the Code is largely a mystery to me because of the intricate and legalistic phraseology. The Editorial Committee must surely have hired a Philadelphia lawyer to help them write it.

Anyway I hope you will do your best to block it. I have written to Brunel and Irene-Marie and Hannah Crossdale, but it would be better for you to tackle the big-shots like Taylor and G.M. Smith. Could you get something into the next issue of the Bulletin of the Phycological Society?

Are you on the Committee for Nomenclature of Algae? Or can you give me a list of the members and their addresses? I thought Grönblad's article was neither long enough nor strong enough, so I wrote another one, using his arguments and adding some of my own, and sent it to him for approval. But it may be printed in Taxon too late to reach the interested persons in time, so I have in mind to get the article mimeographed (after he has approved it) and mail it direct to the members, and to other desmidiologists.

No, you did not lend me Vol. 5 of West & West. It happens that my own copy of Vol. 5 is a photocopy, of the plates only without text, but I had it made at Tulane Library, and then had the prints bound into a ~~small~~ book. The prints were made on a heavy glazed paper, unsuitable for the purpose, and made of them are badly faded and yellowed because of a stale fixing bath.

Mme. Gauthier-Lievre's new genus Allorgeia is in a paper that she submitted for publication early in 1958, but has not yet been printed. So the name M. incredibilis Grönbl. Prowse & Scott has priority. When I first saw this truly incredible critter I thought it was well worth a new genus, but Grönblad had the naming of it, and as he has written me, it is a question of personal taste and opinion whether to make a new genus or not. I recognized also that Amscottia could have been placed in Staurastrum, but it was the first well-authenticated instance of inherited dichotomy to be discovered, with all specimens have widely differing semi-cells, and there was also, of course, a considerable amount of vanity involved in having it named for me.

Your find of a 3-radiate M. muricata is quite remarkable. I have never seen one, though the species is fairly common down here, not have I seen Grönblad's var. simplex which came from Labrador. The only 3-radiate Micrasterias I have seen is the mutant strain, developed by Kallio in culture, of M. thomasiana. He sent me a few living specimens, which I sent on to Starr after having examined and admired them, but he already had them direct from Kallio. I wonder if Starr has been able to continue them in culture. Incidentally, I saw somewhere recently a brief review of a new paper by Kallio, which I don't seem to have, describing some of his experiments with M. torreyi which I sent him, and also of M. ceratophora which Sachlan

must have sent from Sumatra.

I suppose you know by this time that Sachlan will visit you for two weeks in April. I have his complete itinerary in the U.S. sent by the Wildlife & Fisheries Dept. in Washington. He arrived in San Francisco on Feb. 4, and will be in this country for 9 months. I guess that his trip will cost Uncle Sam some \$5000, a lot of money to spend on one man with the rather vague hope of some future intangible results.

I met Schindler in your office in 1954, and had a couple of short talks with him. He impressed me as a promising young man with a considerable knowledge of desmids, and now he has had another 5 years experience. A monograph on Staurastrum, of comparable quality to Krieger's work, would be extremely valuable to all students of desmids, both experts and beginners, and I would not try to discourage him. But my candid opinion is that he ought to have another 10 years of experience before publishing such a monograph, though there is nothing to prevent him from starting right now in accumulating materials towards the final result. Looking at the pictures in your iconograph is all very well as far as it goes, and in many cases that will be all he can do, but examination of actual specimens frequently gives you a quite different idea about some species. I think he should study desmid collections from as many different parts of the world as he can, and I shall gladly help him in this by sending samples. All he has to do is let me know when he wants them.

Enclosed is a bill for the Australian reprints in the amount of \$66.70. I am not quite clear from your letter whether the University will pay the whole amount, to which I should have not the slightest objection, for I have in addition put at least four times this sum of my own money into the paper, for inking the plates, to Hannah for the Latin, in addition to minor expenses for drawing paper, blueprints, postage, etc. If they will pay only one-half, you can type on the bill something like this: "Your share, one-half, \$33.35"

Sachlan wrote me from Washington that our third short paper, on Staurastrum saltans, etc., has been printed in Reinwardtia, and the reprints are on the way to you and me, so we may get them in another month or so.

Sincerely,

February 24 1959

Dr. Gerald W. Prescott,
Dept. of Botany,
Michigan State University,
East Lansing, Mich.

Cost of 250 reprints of our joint paper "Some freshwater algae from Arnhem Land",
in Vol. 3 of "Records of the American-Australian Expedition to Arnhem Land",
Melbourne University Press, August 1958.

\$66.70

April 9 1959

Dear Jerry,

Enclosed is a photostat of a letter from Dr. Silva, dated March 18, a carbon copy of my reply to him dated April 4, and a mimeographed advance copy of the article by Grönblad & Scott to be published in Taxon. Because of the changed situation mentioned in my letter to Silva I have not distributed the mimeographed article, and have suggested to Grönblad that the copies I sent him for mailing should be held up until further, and that he may even wish to stop publication of the article in Taxon if it is not too late.

I suggest that you read the article by M.A. Donk in Taxon VI(9) 245-256, in which he gives a brief history of the action of the various Congresses from 1910 to 1954 on the "later starting point" question. I have been under the impression, which I believe has been shared by most desmidiologists) that Ralfs 1848 as the starting point meant that all the names of desmids used by Ralfs were automatically "right" and that all those that he cited in synonymy or omitted because they were too doubtful were automatically "wrong". I use the words "right" and "wrong" to get away from the confusion involved in the terms legitimate, valid, validly published, etc. From Donk's resume I get the impression that this is what the 1910 Congress intended, i.e., to adopt Nordstedt's 1906 recommendation. But the rules of the game have been changed several times by the various Congresses since then, by changes in the wording of the first sentence of what is now Article 13. In the 1956 Code this reads "Valid publication of names...is treated as beginning at the following dates". According to Silva this means that all names, both generic and specific, published before Ralfs 1848 were not validly published, therefore they have no status under the Code, and in effect do not exist. All pre-1848 names have been "devaluated", and would have a similar status to pre-Linnaean names, of which Prof. Ewan at Tulane has given me a good example: Oxys luteus was first named by Johannes Bauhin in 1651, 102 years before Linnaeus 1753, but it is now known as Oxalis luteus Linnaeus 1753. The original author's name has been dropped, he gets no credit, and bibliographical research is hindered. As Lanjouw remarks on the last page of Synopsis of Proposals 1959, the citation of an author's name is not necessarily for glorification (it sometimes works in reverse!) but to facilitate research. Such "devaluated" names can be "revaluated" by "typification", for which Silva would like to require the original type specimen or else a photomicrograph, or else by comparison with "fragmentary" descriptions and "sketchy" figures if a later author is "foolhardy" enough to stick his neck out. I have seen some type slides prepared by Wm. West and Nordstedt between 1890 and 1900 and others by Pfeiffer von Wellheim and Homfeld in the early 1900's, and almost none of them were in sufficiently good condition to be used as types. But even if they are revaluated, such generic names as Micrasterias Agardh 1827 would, according to the Code, have to be cited in some such way as Micrasterias Agardh ex Ralfs 1848, and similarly for specific names; thus Cosmarium dentiferum Corda 1840 would become C. dentiferum Corda ex Nordst. 1888, because Nordstedt was the next one to mention the plant.

Now all this looks like a hell of a mess to me; it is certainly not what desmidiologists want, not what they thought to be the existing situation. Further, it is clear that Silva's proposal to remove Ralfs 1848 from the Code would not improve matters, in fact it would make them worse by reinstating many abandoned names. Even if he submits a list of names for conservation there would be endless arguments about such a list, and desmidiologists are not adequately represented on the Committee for algae, only two out of thirteen, all the others being marine phycologists or diatomists.

So after you have digested all this, and if you think I am right in my appreciation of the situation, I would like you to write Silva, and send me a copy of your letter.

An article in Taxon would not reach many desmidiologists because there are so few on the roster of the I.A.P.T. But something in the Bull. Phyco. Soc. would reach most of the active workers on desmids. Please think about it.

Sincerely,

April 9 1959

Dr. Gerald W. Prescott,
East Lansing, Mich.

Dear Jerry,

A year or so ago you mentioned in one of your letters that you preferred the spelling desmidology and desmidologist to the older forms desmidiology, etc., but you did not say whether there is any authority for it. Now I see that Dr. P.C. Silva is using the same version with only one "i", in his proposal to the Montreal Congress and in a letter to me.

Here are the equivalents of the common name "desmids" and some related words in several European languages:

British:	Desmids, desmidology.
French:	Desmidiées, desmidiacées, desmidologie.
Italian:	Desmidiacee.
Portuguese:	Desmidias.
German:	Desmidiaceen, Zieralgen; desmidologisch.
Dutch:	Desmidiaceen (3 e's, unusual!).
Scandinavian:	Desmidieer, desmidiaceer.
Polish:	desmidyjn.
Russian:	Desmidievie, desmidievich.

All of them, of course, have the same Greek origin; but it seems that the second "i" is an integral part of the word, and not a connecting vowel.

The Code of Nomenclature, Art. 17, says that the name of an order is taken from that of the type family and has the ending -ales; and, Art. 18, that the name of a family...is formed by adding the suffix -aceae to the stem of the name of its type genus. Thus are formed Desmidiales and Desmidiaceae, so the stem seems to be desmidi, and therefore, by analogy, desmidi-ology, in which the first "o" is the connecting vowel. I don't know any Greek, but from Woods' Naturalist's Lexicon I guess that all these words are derived from desmeuo, desmoō = to bind, fetter, (to constrict?), though in your paper in Bot. Rev. Dec. 1948 you say that the common name refers to the fact that many occur in chains or filaments.

Yesterday in the Public Library I found a brand-new 1959 edition of Webster's New International Dictionary, unabridged, which gives the words: desmid, desmidian (the latter a noun equivalent to desmid); also desmidology and desmidologist.

So unless you can adduce some higher authority it seems to me that the version with two i's is the correct one, and that all desmidologists ought to use it.

Incidentally, I notice that Lanjouw still uses the word algologist in his comments on proposals concerning algae, though the proposals themselves refer to phyceologists.

Sincerely,

CC to Dr. P.C.Silva.

April 18, 1959

Dear Arthur:

Have been away on a couple of trips and so my correspondence is further in arrears than ever. I was interested, naturally, in your discussion of the word desmid; desmidiology; desmidology; desmidiales, etc. I am nothing of a Greek student, but my preference for use of Desmidology is and was based on my interpretation of the root of the word.

To quote from a Sourcebook of Biological Terms: "desm--Gr. desma, genit. desmatos, similar to desmos, a chain, bundle, tie, band, ligament; desmios, confined.
Ex: Desm-id; Desmodontidae (Mam.); Desmatippus (Mam.); Desmia; Desmidscolecidae (Nem.); Asyndesmus (Av.); Entodesma (Moll.)"

This was my source for using the reference of Desmids to chain; not to ligament; nor to constrict (possibly implied, but I think the Greek would use quite another word for constrict).

Further quote: "desmid--Gr. In Desm-id, the id is a diminutive ending and not part of the denitive stem."

Hence our stem is desm. If one studies Arachnae he is referred to as an Arachnologist; not an Arachniologist. One is not a Dermatologist but a Dermatologist. One is a Conchologist; not a Conchiologist. Hence one who studies Desmids is a Desmidologist; ology meaning a scientific study of--.

I have a new unabridged Webster also, and note the use (as before) of desmidiology-- and of course usage will determine the preferred and accepted use; but at the same time I never did and do not now see the logic involved and according to my interpretation of Greek rules Desmidologist is the precise and correct term. At the same time it can make no difference in the long run as long as the name is well-understood.

I have already written to Silva (some time ago) and he knows what my opinion is. He replied that botanists seemed to be more in favor than against his proposal. He is going to find plenty of phycologists (or should we write phyciologists) who are against his proposal. I do not know how much opposition steam we can muster--but I for one am going to vote against it. For my money it does not matter a whit whether a name is linked to Ralfs or to Corda or Corda (ex Ralfs). As long as it is an accepted and valid name and one which is understood by botanists it is a meaningful and helpful handle. I think, of course, that authorship of a name should be indicated for all the usual reasons--but I agree with you and with others, that to throw out Ralfs (especially after the Congress once indicated Ralfs as a starting point) would make confusion much worse than it now is. Thank you for sending me copies of your letters.

Best regards till later.

Jerry

April 26 1959

Dear Jerry,

Your hint that "The Greeks had a(nother) word for it" put me on the right track; their verb 'to constrict' was σπίγγω (spingō). So I admit that you were correct in stating that 'desmid' refers to the growth of some genera in chains or filaments.

Your quote from an unknown source: "In desm-id the id is a diminutive ending and not part of the stem" is correct as to the latter part of the statement, but whether it is a diminutive is open to question. I think it is more likely to be definition #2 in Jaeger's source-book (1944, p. 109): "English -id, terminations of nouns derived from zoological and botanical family names; thus: fringillid from Fringillidae, and psocid from Psocidae". In any event, 'desmid' is an English word that had to be devised because there was no other name for these newly discovered plants. The corresponding Greek word is 'desmidion', in which the -idion is a diminutive, latinized as Desmidium. Compare carefully with 'bakterion' in which the -ion is a diminutive, latinized as Bacterium.

Combining Greek and Latin words is considered bad form, and it would be even worse to combine Greek and English. That, of course, is why the study of spiders is not called 'epiderology' but arachnology, and the same goes for your other two examples, dermatology and conchology. But you are doing just that in writing 'desmidology'. Incidentally none of your three examples gives good support to your reasoning; none of the Greek stems contains the letter 'i'. Do not let the Department in doubt.

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Now give a look at the following list of Greek words, which could be considerably extended, and note how the various 'ologies' are derived from them:

arachn(e)	spider	arachn-ō-logy	ethn(o)s	race	ethn-ō-logy
derma, dermat-	skin	dermat-ō-logy	kranio(n)	skull	cranio-logy
konch(e)	shell	konch-ō-logy	ichthy(s)	fish	ichthy-ō-logy
zoo(n)	animal	zoo-logy	kardi(s)	heart	cardi-ō-logy
bio(s)	life	bio-logy	herpeto(n)	reptile	herpeto-logy
physi(s)	growth	physi-ō-logy	bakterio(n)	small rod	bacterio-logy
arch(e)	first in time	arche-ō-logy	desmidio(n)	small chain	desmidio-logy

Except where there is a combining form, like dermat- or ornith-, all the 'ologies' are formed by dropping the final letter of the Greek stem and adding the Greek termination -logy, from logos = a discourse. I call special attention to the exact analogy between the formation of 'bacteriology' and 'desmidiology'. No doubt you have some bacteriologists at M.I.U.; suppose you try your head at persuading them that their speciality should be spelled 'baecparology' and their title 'baecparologist'. Or imagine what would happen to an ichthyologist if should take the notion to use the simpler spelling 'ichthology' or 'ikthology'!!!

You say that "Usage will determine the preferred and accepted form"; to which I reply that usage has already determined it as 'desmidiology', and many years ago, otherwise it would not be included in Webster's dictionary.

Students of desmids in M.I.U., and some from far-off countries, look up to you as their leader, and a good many of them, I expect, would say: "If Prof. Prescott spells it that-a-way he must be correct", and thus the bad practice would spread.

Sincerely,

Cc to Dr. P.S. Silva.

May 7 1959

Dear Jerry,

Enclosed is the Ms of the fourth short paper on Indonesian desmids for your approval or correction. You have already seen the first part of it; the latter part is new. It is the last preliminary paper before the big one, of which I am now typing the final copy.

Hope you won't have to make too many changes in this one; it is the fifth version that I have written. You may keep the prints, but please return the Ms approved or corrected.

Here's some more dope on the spelling question. The 10-volume Oxford dictionary gives desmidiology and desmidiologist, as does also the 5 or 6 volume Century dictionary. Other smaller ones that I consulted do not contain these words, only desmid.

There is also the name Spondylosium desmidi-i-forme (Borge) West & West (1904), = Sphaerosozma desmidiiforme Borge 1905. Evidently both Borge and West & West considered the stem to be desmidi, and since it appears in Horstedt's Index it must have had his approval also, for he generally corrected misspellings.

Now the Sardinian gets along. He is certainly going to get some concentrated doses of phyceological education in his 9 months in this country. I hope he won't encounter any embarrassment, because of his dark skin, while travelling in the South, especially in Alabama which is the worst of all the southern States on the color question.

Best regards from,

Fish Culture Research Station,
Batu Berendam,
Malacca.

Federation of Malaya.
May 11th 1959

Dear Mr. Scott,

How can I thank you for so generously lending me your spare copy of Nordstedt's "Index Scandinavicum". It will indeed be put to a good use. I have been back in Malaya a fortnight now & am pleased to say that the station is really thriving. My Chinese lab. assistant seems to have coped extremely well in my absence & I found myself with less of a back-log of work than I expected. There have been a number of changes in my absence. The Fisheries Adviser to the Colonial Secretary was relinquishing the post of Director of the station after having really set it going. He has now gone back to the Colonial Office to cope with all the other territories asking his advice. The new director, a young man here only temporarily, is very good at his job & I imagine things will progress considerably. Unfortunately, as far as the desands are concerned, nearly all the ponds have been subjected to treatment with lime & sulphur, so that my sources of some of the interesting ones, such as Micrasterias coratophora, have disappeared. However, there are still a few untouched acid ponds, & we have all the outside swamps & paddy fields to visit. In one of our acid ponds I have found one specimen of Closterium cuspidatum which I have drawn. I tried to rescue this solitary specimen, but failed. We are keeping an eye on the pond however & I take regular net hauls to watch out for it. The weather here in Malaya is pleasantly warm after the rather cold weather I had in England. I managed to see the beginning of Spring there, which was delightful. Here we have been having some heavy rains, after a drought in Malacca,



BY AIR MAIL
PAR AVION
AIR LETTER
AÉROGRAMME

Mr Arthur H. Scott
2026 Dante Street,
New Orleans 18,
La.
U. S. A.

Second fold here

Sender's name and address: C. A. PRADIE,
FISH CULTURE RESEARCH STATION,
BATU BERENDAM,
MALACCA.

AN AIR LETTER SHOULD NOT CONTAIN
ANY ENCLOSURE: IF IT DOES IT WILL BE
SURCHARGED OR SENT BY ORDINARY MAIL

First fold here

The swamps are filling up again. I imagine
that within a few weeks there will be an
abundance of desmids, & I shall be collecting
them. We shall try again to grow them in
culture, & to send living material to Dr. Steud.
I hope you & your wife are
keeping well.
With best wishes
Lyndell A. Cross.

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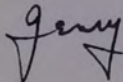
May 18, 1959

Dear Arthur:

Believe it or not--one of these days I shall answer your last good letters. Am reading the manuscript now--with considerable admiration for your critical analyses. There are several things I am checking on and because this cannot be done all at once I am not ready to write you about the manuscript. The plates are superb.

I have to be away for a couple of days to give a 'sermon' but will be able to finish my checking immediately after that.

We enjoyed Mr. Sachlan very much indeed. He is a most pleasant man and full of interesting information. I am very remorseful over the fact that I could do so little for him here. But he did spend time with the literature and the iconograph and we got him out to see a little of the country and some persons interested in his work. At the time he was here I was nearly crazy with the Transactions--more cussed trouble with the printer's schedule and with negligent authors who would not return galley. I am away off schedule with everything now--so much so that I feel like chucking the whole mess--which is a lazy man's way of reacting of course. Mr. Sachlan had no problems here at all. Sensibilities over skin color are not so raw in this section as they are elsewhere. He stayed at Kellogg for a few nights and then went down to the YMCA--more economical. We were repairing the house and Tess did not feel that she could have a guest at the time. Best regards till later--and to Edith. Please take care of yourself.



June 11 1959

Dear Jerry,

Today I received from Indonesia 50 reprints of our third short paper by registered mail, so perhaps the other 50 will arrive shortly. Have you received any of the 200 that I ordered for you?

Sachlan spent five days with me last week, and it was a rather strenuous time, for I am not accustomed during the last few years to going continuously from early morning until late at night. However, I think I showed him all that could be seen around here in that time. We went our demid-hunting one day in St. Tammany Parish, just north of Lake Pontchartrain, but the catch was rather poor; the road that I selected, where I used to get good hauls, had recently been worked over by a road repair gang who had scraped out the ditches on both sides of the road, draining off the water in all except a few deep spots. Also I took him to one of the State fish hatcheries, but their work was over for this season, and the ponds were dry, having been drained in an effort to cope with a dense growth of Nuphar that had been bothering them.

One day Dr. Percy Viosca took us for a ride in one of the Wildlife & Fisheries airplanes out to the string of islands just off the Louisiana coast. We flew along the islands at about 100 feet off the ground so that Viosca could count the number of pelicans and see if they had been dispersed by a small tropical storm that occurred the week before. That was quite a revelation to me, as it was the first time I had ever seen this coastline. We had lunch at the Wildlife & Fisheries Biological Station on the island of Grand Terre, not much of a place at present, but they are building a new laboratory of reinforced concrete that ought to be a very nice one when finished. Afterwards Dr. Santomar (?) the Chief Biologist, took us out in a speedboat to see some shrimp trawlers, in which Sachlan was specially interested. We boarded one of them where the catch was being sorted on deck. They were saving only the shrimp and a few soft-shell crabs, and half a dozen squid that they were saving for someone who likes to eat them, all the rest of the small fish and crabs, etc., being dumped overboard. This amazed Sachlan, who said that in Indonesia nothing is wasted, everything is taken to the market and sold, no matter how small.

Where are you going for your summer vacation? To Montana Again? Before you leave I hope you can return the Ms. that I sent you of the fourth short paper on *Micrasterias moebii* and *Eastrum turgidum*. The large and final paper on Indonesian desmids is now finished, except for proofreading to correct my numerous typographical errors. There are 170 pp of double-spaced typescript and 63 plates of illustrations. Do you want to see it before I send it to the editor of *Reinwardtia*? I don't think there is anything controversial in it, or any of the determinations that you would not agree with. In fact we did agree on practically all of them the last time I was in East Lansing, though I made a very few last minute changes when drawing the plates.

Sachlan says that he thinks *Reinwardtia* will print the whole paper in one special issue, though I have managed to arrange it so that it can be split into two parts of approximately equal length if absolutely necessary. There are 235 species, 243 varieties, and 48 named forms, a total of 526 taxa, of which 152, or 29% are new. Thus it will be by far the most important paper ever published on desmids of southeastern Asia. I shall write to the editor, Mr. A. Dilmy, before sending the paper, to see what he can do with it. How many reprints will you want?

Best regards to you and Tess, from Edoth and myself.

June 13, 1959

Dear Arthur:

Am just leaving for Montana, after a crazy scramble--and I am not ready to go. Write me at the usual address: Univ, Montana Biol. Station, Big Fork, Montana.

Am returning (at last) the well-organized manuscript which you have prepared. I checked on some of the points you raised which stirred questions. I am quite in accord with the dispositions included in the Ms. and I think it is a helpful contribution to the straightening out of an enigmatic situation.

Indonesia III arrived yesterday--after being on the road quite a while. Did you also order reprints (I have forgotten--and your correspondence is up at the laboratory, so I cannot check). Let me know if you are to have some of the lot received here. I think there are only 50 or so.

Has Mr. Sachlen been with you as yet? I have not heard from him since he left. I hope he made his schedule alright. Have just received a good paper by Vaas & Vaas on the ecology and limnology of fish-food organisms in Bogor.

How are you getting along with the big paper with all the plates? That has been a tremendous task. I have been making considerable headway with the North American desmids. Have had a whole series of samples examined and forms drawn--some of which I think are new. I shall try to sort those out this summer and send them to you for your examination. Have many dozens of forms drawn--and have tried to bring the check list of North American species up to date.

I note that you have been having your usual bath and deluge of hot weather. It has been about the same here--very humid--and not good for final examinations--which are still in progress.

Schedule has been set for me to go to Alaska for a month in September--will get a chap started there to spend the winter. I do not know whether any additional desmid species can be added to our summary list--but I shall have more collections made anyway.

Please give our best regards to Edith. Take care of yourself these hot days.

Cordially- *fwj*
G. W. Prescott

*Have sent in
request for
copy of records
of Arthur's hand*

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AIR MAIL-POSTAL CARD

Mr. A. M. Scott
282 1/2 Dante Street
New Orleans
Louisiana

Dear Arthur: How is the heat down there on the Gulf? I wish you were as cool as we are here. You would find this a delightful place to spend the summer--with plenty of algal ponds to sample for desmids.

433

I am wondering if you can give me the page number of the note by Gronblad in Bot. Notiser, 1954(4) in which he changed the name of Scottia to Amscottia? I have a reprint, but it is not numbered and I have no other reference material with me. If possible I would appreciate it if you could give me the information. Am finally typing up the desmid genera for the Index genericum.

Our best regards to you and Edith.

G. W. Prescott
G. W. Prescott

July 18 1959

Dear Jerry,

The reference that you want for Amscottia is Bot. Notiser 1954(4):433.

Have you received Mme. Gauthier-Lievre's paper "Desmidiacees asymetriques", in Bull. Soc. d'Hist. Nat. de l'Afrique du Nord 49:93-101, March-April 1958, with her Allorgeia valiae gen. et spec. nov.? The plant has the same general structure as Micr. incredibilis Grönbl., Prowse & Scott, but with enough small differences to make it a new variety, not a different species, in my opinion. I understand that her paper was sent in for publication early in 1958, but not effectively published until sometime in 1959. Thus the name M. incredibilis has priority of date, but for those who believe the plant is correctly assigned to a new genus, the name Allorgeia has priority of rank. What is your opinion as to the new genus? The nomenclature is further confused by her having omitted a Latin diagnosis, so that both her genus and species are illegitimate because they were not validly published in accordance with Art. 34 of the Code, which requires a Latin diagnosis for any new taxon of Algae published on or after Jan. 1 1958. I don't pay much attention to such technicalities, nor does Grönblad, but sooner or later someone like Silva will pounce on it with glee.

In the same paper she illustrates the second asymmetrical Micrasterias, M. sudanensis Grönbl. Prowse & Scott, which she cites erroneously and carelessly as M. sudanica, and says that it is widely distributed in equatorial Africa. She must have been shocked when she saw an illustration of this in Telling's 1957 paper on Asymmetry in Desmids. And she must have had an even greater disappointment when she received the Sudan paper by G. P. & S., and found that both of her remarkable discoveries had been anticipated. She probably learned about this in April or May 1958, when her own paper was still in press, so apparently she had an opportunity to recall her paper and revise it, if she had wanted to. I think I should have done so if it had been my paper; at any rate to make mention of the prior publication.

Grönblad tells me that Kuno Thomasson has found the same two asymmetrical Micrasterias in a new lot of material from Lake Bangweulu in Northern Rhodesia, but I don't know yet if they are quite identical. It seems almost incredible that they should have been discovered within the space of three or four years, by three persons independently, and from such widely separated places as the Sudan, French Congo, and Rhodesia. These African finds show beyond any doubt that the two Micrasterias are real species that reproduce vegetatively true to their asymmetric form. One of them has progressed so far in evolution that it has developed intraspecific variation. I think that each of them must have evolved from two differing ancestral forms that had like senicells, perhaps by hybridism, perhaps as sports resulting from derangement of the genes by such a means as cosmic-ray bombardment. Maybe these ancestral forms still exist and will be discovered in the future. On the other hand they may have disappeared in the course of evolution, like the many fossil forerunners of present day organisms in other groups.

The Purchasing Dept. of M.S.U. has just sent me a purchase order and invoice-voucher forms covering the cost of reprints of our Arnhem Land paper, and I have filled them out and return them, so no doubt the check will be forthcoming soon.

Best regards to you and Tess from Edith and myself.



Box 1070
Fairbanks, Alaska

September 14, 1959

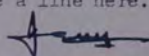
Dear Arthur:

Congratulations to you and to Dr. Grønblad upon your forthright and convincing argument against the changing of the Starting Point of Nomenclature for the algae (especially desmids). You have succeeded in expressing the convictions of many, if not most of the phycologists. I have not heard all the details of the voting on the proposals at Montreal, but I understand that there was a great chorus of NO in response to most of them. I talked with no one who was in favor of changing the rules. I did not receive your paper until I arrived here at Barrow, where it was kindly forwarded by Prof. Brunel. I had an opportunity to visit with him only briefly. He was very busy--and the whole affair was very time-consuming--so many places to go, so many meetings to attend.

I saw Sachlan briefly. He seemed to be enjoying himself and was meeting a large number of persons. Hannah did not make it--the poor woman is still suffering from a bad case of flebitis or something like that. We missed you at the meetings. I know you would have enjoyed some of the sessions--although there were few papers on strict taxonomy--mostly physiology and the relation of photomicrography to systematics--some of which was very discouraging (in a way) for the implication is that for some genera it is necessary to carry an electron microscope around with you in order to make species identification.

How are you and Edith? I feel very guilty for not having written sooner. This fall has been rather distracting--getting to Oregon to leave Tess-- getting to Montreal, then down to the AIBS and then making final arrangements for getting up here--all the while trying to take care of the AMS business. We are getting pretty well grooved in here although we are bitterly disappointed over the failure of some of our equipment to arrive--some things which we wished to use--must use, before the big freeze which is due now any time. For nearly a week we have enjoyed the unheard of thing at Barrow--bright sunshine all day. It has been cold with a little skim of ice on some of the smaller ponds, but it has been excellent seeing weather and fine for collecting. As usual the case, I have turned up only a sprinkling of Closterium, a few Cosmarium and a lone Euastrum or two.

I hope you will forgive me for not writing. I am anxious to know how you and Edith are and how your work is going. If you can drop me a line here. I shall be here until Oct. 1 or nearly then. With kind regards,


O. W. Prescott

October 12, 1959

Dear Arthur:

I am trying d sparately to get settled again--have been back ten days and the pile is a little closer to the ground (of the things I have to do). Was gläd--and surprised to have your card from San Francisco. I hope you and Edith had a good and interesting time. It is an interesting city, but cool for a Louisianian in the late summer. Did you get over to the Redwoods?

I have just received a letter from Dilmy which I inclose. I answered him, stating that the manuscript must be yours (or a joint paper) for I have not sent in a paper alone. I hope that this does not cause you a lot of extra work. What a tragedy to lose something like that. I have nightmares over that in my AMS work. Apparently the plates (the irreplaceable part, almost so) have been found. I hope he answers my letter promptly and/or writes you immediately.

I have a chap (an artist) working on assembling the desmid drawings this fall. Slow work.

Saw Sachlan again for a few minutes at Montreal and at the AIBS meetings. I suppose he has returned by now to Indonesia. He said that Edith was not well--and I meant to check but was so confoundedly tæed up with getting off to Alaska that I did not have time to write anybody.

Hope you are all OK now. We have been messing around with an epidemic cold--but still alive. Let us hear from you soon.

Cordially-

Oct 15 1959

Dear Jerry,

Dilky's letter no doubt was prompted by one that I wrote him immediately after our return from California, enquiring about the proof of the short paper #4 which I sent him in June; also, and more importantly, asking what he could and would do with the large paper with 63 plates of illustrations, which I told him was ready for submission. A couple of years ago Sachlan wrote that Dilky had told him he could publish the large paper in one issue of *Reinwardtia*, but it turned out so much larger and with so many more plates than I had estimated, that I wanted some definite assurance about publication before spending \$25 or more in airmail postage on it.

Anyway I have sent him a copy of the short paper, and since the original letter that accompanied it has no doubt been lost also, I have sent a carbon copy of that. It is fortunate that the plate drawings have turned up, but I always get blueprints of them to take care of such an emergency, so it would not have been difficult to have the blueprints traced. Hope he will reply promptly about the big paper so that I can get it off my hands.

While you were breaking ice on the ponds at Point Barrow, Edith and I were driving across the deserts of Arizona, California and Nevada, on a vacation trip that I had been promising her for a long time. Before we left some of our friends doubted that we would get that far, for as they say, "it's a long way to the top, and in fact I was not too sure myself. But both of us stood the trip very well, though it was tiring at times because I had to do all the driving. We covered 6000 miles in 31 days of actual driving, or less than 200 miles per day average; also we had to do a good deal of walking and a little climbing at the various places we visited, that was good exercise for us, far more than we get at home.

Yes, we went to the Sequoia Nat'l Park, and though we had often seen excellent colored photos the actual sight of the big trees was almost incredible; it is difficult to realize that some of them have a greater diameter at the base than the entire width of my house. We also saw the Muir Grove of coastal redwoods just north of the Golden Gate; by comparison they seem almost infants, though they grow considerably taller. Fifty years ago we had some very big yellow pines (*Pinus palustris*) in Louisiana I seem to remember that they must have been 3' or 9' diameter just above the ground, but they have all been lumbered off long ago.

In Arizona we visited Meteor Crater, the Petrified Forest, the Saguaro Nat'l Monument, and the Organ-pipe Cactus Nat'l Monument. The organ-pipe cactus is very much like the saguaro or giant cactus, but smaller and of a more branching habit. In California we visited Yosemite, first going to Glacier Point and then up a different road to Camp Curry at the head of the Valley, where we stayed overnight. After studying the map I found that Camp Curry is only about 1/2 mile in a straight line from Glacier Point, though at 2000' lower elevation, but you have to drive 31 miles to get from one to the other. The mountain scenery, with its enormous granite domes and sheer cliffs, is stupendous, but all the waterfalls had disappeared, owing to an exceptionally dry summer. The famous Yosemite Fall had not a single drop of water, and the equally famous Mirror Lake had shrunk to a mere pond, with people walking over much of its sandy bed.

Lake Tahoe is another beautiful spot, but the south end is being ruined, in my estimation, by the mushroom growth of motels, restaurants, hot-dog stands,

and gambling halls (on the Nevada side of the State line). However, I suppose they are necessary to take care of the large crowds of visitors. We got there on a Friday afternoon and had some trouble in finding a motel for the night; most of them were booked up for the weekend.

From Lake Tahoe we went south and crossed Death Valley, which I thought somewhat disappointing. There are some spectacular views from the 6000' mountains on each side, but the floor of the valley, at sea level or below, is no different from the several other deserts that we saw. The deserts themselves must be highly interesting for geologists, zoologists and botanists who can take the time to explore and study them. I know nothing of geology, we saw practically no animals, which I believe are mostly nocturnal to avoid the extreme daytime heat; and the only plants I can recognize are some of the larger and more curious ones, from having seen them illustrated so many times, like the giant cactus, the Joshua tree and one or two other species of yucca, the century plant (Agave), and prickly pear, cholla and ocotillo. The latter three, I learn to my surprise, all belong to the same genus (*Opuntia*), though you would never suspect it because of their vastly different appearances and habit of growth. We were too late in the season to see any of them in bloom, and I would like to visit there in the spring to see some of their remarkable blossoms. Rather strangely, the century plant and one species of yucca grow quite well in New Orleans, there is a yucca in bloom right now a couple of doors from us, and a century plant blooms regularly at a Catholic seminary just two blocks away.

Near Los Angeles we spent half a day at "Marineland of the Pacific", a new development copied, with improvements, from the Florida Marineland near St. Augustine, which we have seen several times. This is well worth a visit, if you have not already seen it. They even have three whales that they have taught to perform some of the stunts that the trained porpoises do. I would hardly have thought that whales have the same degree of intelligence for which porpoises are noted.

On the way home, we took an extra day to go to the Big Bend Natl. Park in south west Texas. Just south of the Big Bend National Park in Texas. I think that you went there on the way back from the Canyon del Coors.

I did not take my collecting outfit along, for I thought it would be useless, and that's the way it turned out. I don't think I saw more than five or six places that looked favorable for desmids. Of course there are lakes in these western states, but it would have required too many side trips to reach them. In the California Sierras there are many small lakes that ought to be favorable, for many of the mountains seem to be composed of granite and other igneous rocks, but they are far beyond my reach. Maybe the difficulty of access accounts for the dearth of algal records from the western states.

Soon I shall have to try and get my mind down to business again, and go to work on my desmids. The next job is a lot of Brazilian collections that were sent to me some years ago. I went through them once, but then I merely skimmed off the cream of new and rare species; now I have to re-examine them to pick up the common ones that I overlooked. Our hot weather broke just three days ago, so now I can work in something like comfort.

Best regards to you and Tess from Edith and myself.

Sincerely,

Oct 27 1959

The Director, Kebun Raya Indonesia,
Bogor, Java.

Dear Sir,

This is in reply to Dr. Ingrid May's letter of October 16th. Last week I sent you a duplicate copy of the manuscript of our short paper No. 4, and no doubt you will have received it before you get this letter, so that matter should now be settled.

His remarks concerning non-payment of charges for extra reprints of our papers Nos. 1 and 2 came as a complete surprise, and I can assure you that neither I nor Dr. Prescott has ever received an invoice or request for such payment. At the time I was rather surprised at not getting an invoice, but I concluded that the amount was probably small, and that you were not going to make any charge. If I had received an invoice or request for payment I would have paid it immediately, for I make a practice of paying all my bills every month. If you will let me know the amount that is due you, in U. S. money, I will send a remittance at once. Please tell me if I should send U. S. currency (\$1 or \$5 or \$10 bills), or a bank cheque. You can probably get more rupiahs for the U. S. bills.

I am sorry to hear that Reinwardtia will not be able to publish the large paper, but this was not with my forecast because it is larger than I had originally estimated, and of course I have read something about the financial stringency in Indonesia caused by events of the last few years. Mr. Max Sachlan is now spending his last few days in Washington, whence he will leave for Bogor on Oct. 30. I wrote him yesterday by airmail giving him this news, and suggesting two other journals that might be willing to print the paper. I hope to hear from him before he leaves this country; if not, he can discuss the matter with you upon his return to Bogor.

With best wishes,

Yours sincerely,

Copy to Mr. Prescott.

Oct 27 1959

Dear Jerry,

The enclosed copy of letter to the Director, Kebun Raya Indonesia, is self-explanatory.

Yesterday I wrote Sachlan in Washington, and hope to catch him before he leaves there on Friday Oct 30th for home. The suggestions that I made to him are as follows:

1. Possibility of obtaining an N.S.F. grant for publication costs in an American botanical journal.
2. I believe that Prof. van Oye would accept it for Hydrobiologia, but this journal is objectionable to Sachlan and other Indonesians because of their hatred for the Dutch.
3. I have been invited by the publisher of Nova Hedwigia to contribute to this new journal, and it is stated that large and important papers can be handled as supplements, as they are going to do with Die Gattung Cosmarium.

I would like to know if you have any other suggestions. Also I would like to have your comments on proposals #1 and #3 above. I know very little about N.S.F. grants, except what I have learned from a small pamphlet that they put out, so I thought of writing an informal letter of enquiry as to the possibility of getting such a grant. It seems to me that they might consider it favorably, for the amount involved would be comparatively small; merely publication costs (including 350 reprints), plus my out-of-pocket expenses amounting to about \$275.00. I would ask nothing for the thousands of hours spent in research. Perhaps from your experience with the A.M.S. Transactions you could give a rough estimate of printing costs. The paper has 169 pages of double-spaced typescript and 63 full-page plates of illustrations. If the explanations of plates are printed on the verso of the preceding plate, which would be a very desirable feature, I estimate that it would add about 22 printed pages. Can you suggest who might print it if an N.S.F. grant can be obtained?

Nova Hedwigia looks like a good bet. I have the first issue, which is beautifully printed and bound, on fine paper, and with excellent illustrations, but it seems to me they are trying to cover too wide a field, including algae, fungi, mosses and ferns. If they were willing to publish the paper I would expect to get remuneration for my expenses, and since they would be selling the work at a profit I would try to dicker for a small royalty, say 5% or 10% of the retail price. Do you know anything about the usual practice concerning royalties? At present they offer a small honorarium to authors, of 25 marks (about \$6.25) per "sheet" (signature) of 16 pages, but this would not amount to more than \$50 or so.

Best regards,

Sincerely,

Oct. 30, 1959

Dear Arthur:

Thanks for your good letters. I certainly enjoyed reading of your most interesting and scenery-filled trip to the coast. It was very nostalgic. I never fail to be awed and thrilled by a walk in the redwoods. Some of the 'rain-forests' of Oregon and Washington are about as interesting--although the trees are not quite so large. I am certainly glad that you and Edith had that trip without any troubles. I do wish that you could get up this way again--at least during some season when the weather is friendly.

Naturally I was much interested in your letter of Oct. 27, but sorry to learn that Reinwardtia was unable to take the large manuscript. I am not aware that NSF has ever extended a grant for publication of an individual paper. They aid in publication of journals and/or books. This should be looked into. Another possibility is through some of the Memoir sections or Monograph sections of some of the journals such as Mem. Torrey Botanical Club; Ecological Monographs.

I like Nova Hedwigia --and that is a proper place for your paper. I think they are undertaking an ambitious and very much needed program of publication. Yes, it does cover territory, but then it very well might attempt this for the old Hedwigia of course was a coverage of cryptogamic botany. I certainly suggest that you write the editor and 'feel' out the possibility of having the work published separately with a royalty (10% is usual). Of course such a paper would have a limited sale and although a printing of enough copies to make the work not too expensive would pay out eventually, it would involve tying up several thousand dollars for a period of 10 or 15 years. I judge from your figures that to get the work published in this country would require a minimum of \$3,000 (\$2658 publication costs, plus \$275 for reprints and your expenses).

The AMS printers have the lowest cost per page rate of any that I know of in this country (around \$12.00 per page). I think you could not find a better printer for this type of paper. I estimate plates would average about \$10.00 per zinc etching. The manuscript would run to about 90 printed pages plus 63 pages of plates or about 160 pages--a nice sizeable bulletin.

I shall make some inquiries and meanwhile await to learn what word you may have received. Also I shall be glad to learn what hear from Bogor in respect to the missing invoice.

With best regards to you and Edith-

Jerry

160 x 12 = 1920

63 x 10 = 630

2550

Dec 15 1959

Dear Jerry,

I haven't done much writing lately because I have been partly laid up with a serious infection of my right foot (athlete's foot). This ailment I have had for many years but have managed to keep it under control with a fungicidal ointment, but this time it got out of control and proved quite difficult to heal. The doctor said there was also a secondary infection, perhaps Staphylococcus or something like that, which provoked an allergic reaction that resulted in the peeling off of the outer layer of skin on all my toes and fingers, and part of the skin on the soles of my feet and palms of my hands, though it was only the right foot that was infected. A curious phenomenon, and decidedly annoying.

You suggested in your last letter that the large Indonesian paper might be published in Mem. Torrey Bot. Club, or in Ecological Monographs. The latter is out, I'm afraid, because there are no ecological data in the paper: for such data as are available I have referred to papers by three Indonesian collectors. About ten days ago I wrote to Dr. Murray F. Buell, of Rutgers Univ., who edits the Torrey Memoirs, giving a synopsis of the paper, and asking him to tell me if there is a chance of his accepting it, and that if his reply was favorable I would send the paper itself for his examination together with some prints of representative plates of illustrations. So far he has not answered; no doubt he is as busy as you are.

In case his reply is unfavorable, I have prepared an informal letter of enquiry to the N.S.F., making, which I will send to Dr. David D. Keck, who is Director of their Division of Biological Sciences, giving a similar outline of the paper, and asking him to advise me, informally, whether an application for the publication costs would have any chance of being approved.

Prof. Joseph Egan of Tulane Univ., to whom I went for advice, suggested that the Smithsonian might handle it as a Contribution from the National Herbarium, possibly in combination with a grant from the N.S.F., so when I write to Dr. Keck I will ask him to look into this also.

Enclosed is a copy of a letter received this morning from Mr. Anwar Dilmy, editor of *Scinwardtia*. This is a complete surprise to me, for I have never received any invoice from them. Apparently you must have received a bill in 1957 and sent some photographic paper in settlement; but the paper went astray, as have a couple of my letters to Sachlan. Please let me know what you want to do about this matter and I will be guided accordingly.

Edith and I send our best wishes to you and Tess for the holiday season. I suppose you will be going away as usual, but I hope you can write a short reply to this before you leave.

Sincerely,

Morrison HOTEL - CHICAGO

WILLIAM HENNING RUBIN
PRESIDENT

JOHN B. GRANDE
GENERAL MANAGER

DEC. 27-1959

Dear Arthur:

Just a note to say how sorry I am that you have been pestered with foot trouble. Have you used boric acid powder?

Many people get cure and/or prevention by simply keeping feet in a film of boric acid. Hope you are well recovered by now. That must be very annoying and painful. To say the least.

I was as surprised as you at the note from Odling. Twice now I have sent him photographic paper. Apparently it didn't get through customs. I have written him asking for a formal bill of the amount due (\$18.90) and I

FAMOUS FOR THE **BOSTON Oyster House** WHERE FAMOUS PEOPLE EAT

shall remit as soon as I receive
it. I need to have a formal statement
for such expenditures. I apologized to
him. Actually I thought that account
was long ago settled.

I am not buying any more of the
reports about which he wrote. So I
guess the matter can drop.

Am trying to attend a few meetings
at the AAS convention. Hope you
had a good Christmas. Your letter
caught me at Jerry's where we went
for a few days.

Hope later.

Best regards -

Jung

AMERICAN MICROSCOPICAL SOCIETY

ORGANIZED 1878 --- INCORPORATED 1891

G. W. PRESCOTT
SECRETARY-EDITOR

March 10, 1960

DEPARTMENT OF BOTANY
MICHIGAN STATE UNIVERSITY
EAST LANSING, MICH., U.S.A.

Dear Arthur:

I have been very neglectful of you and almost everyone else I know during this rushing business. Now that the term is closing business seems to be getting worse- as it usually does. I have meant to write for a long time to ask how you and Edith are, and to ask your opinion on the inclosed copies.

These are sample pages made up by Wm. Brown & Co. to show what they could do with an off-set method of printing a synopsis of North American Desmidiaceae--toward which we are slowly working. They have offered a price which seems to be well within the range of possibilities--if NSF can foot the bill. I used such copy as examples of what we intended to do when I submitted my application for a grant-in-aid to continue the project and to get the work published.

These are sample copies only--have several imperfections and omissions- not intended to be exact- but to show what the page size would be and what the illustrations would look like. I would appreciate it if you would consider these samples and write your comments to me--and then please mail the samples on to Dr. Croasdale for her opinions. The idea here (as mentioned before) is to put out a loose-leaf book with pages printed on both sides, and placed in such a binder that the pages could be removed and/or new and additional pages inserted in their proper place when and if and as other forms are reported. How many volumes will result I cannot much more than guess. It depends largely in what we do with varieties. My thought is that we should place several varieties on a single page; we just could not afford a separate page for each. This would result in varietal names not being in alphabetical order--but that would be not too important, it seems to me. We may have 1400 species or 700 printed pages; or thereabouts. This would not include a few more pages for keys if we decided to put those in; nor the pages used for an introduction and a discussion of desmid ecology. Probably 800 pages in all. This would make 2 400 page books. I shall not know whether we have any more support until in April. Meanwhile I cannot help but continue to make plans and to keep the problems in mind.

I envy you your southern exposure, although I note that the South has had some unusually cold snaps this winter. We are still freezing here with about 2 feet of snow and ice and no sign yet of a let-up.

I noted the tirade by Silva in Taxon- I think it was. I was sorry to see that. He seems to be in a retaliatory mood. For a many who apparently knows nothing about the desmids and the wishes and philosophies of those who study desmids it seems to me he is wading in over his depth. I think all (or most all) of the algal students who work with the group of desmids are more in the frame of mind as expressed by you and Gronblad. There will always be differences of opinion; and different interpretations of rules.

I hope you are both well and standing the winter. Tess is Ok now, has started to drive the car some with all effects of her operation gone apparently. Did I tell you that we are going to the Virginia station again this summer? Best regards to you both. Excuse me for being so slow about writing.

Jim

March 17 1963

Dear Jerry,

I don't think you could have told me previously that you contemplated issuing the Synopsis of N.A. Desmids in loose-leaf form. If you had I should have started asking questions immediately, for the idea does not appeal to me at all. In theory it seems good, but when examined in detail it becomes much less so. I'm afraid you will not like my comments, but ^{you}asked for them, so here goes.

You know much more about books and printing and publishing than I do, but in my business career I had to use several different kinds of loose-leaf books that were issued by the companies we represented, as catalogs, price lists, stock lists, manuals, etc. The best of them used heavy bond paper with a high tearing strength, but even these sheets frequently tore at the holes and I had to reinforce them with the gummed linen washers made by Dennison Mfg. Co. Any binder for your purpose would have to have provision for clamping the sheets tightly, as in the accounts' ledger type which has fixed binding posts with a screw arrangement for clamping. Perhaps you have in mind the type of binder that you used for the *Bibliographia Desmidiacearum*, which is fairly satisfactory, but I can hardly imagine such a book with 400 pages, particularly in a 7" x 10" size or thereabouts. Such a book would not open flat, and it would be difficult to read the print near the central "gutter". And you would expect the book to stay in good condition for fifty years, maybe a century! My copy of *Halps* 1843 is still in excellent condition, though I'll admit I don't use it very often. The other books that I use constantly, like Smith's *Wisconsin*, *France-Mariet's Montreal*, *Nest & Nest's Monograph*, and *Krieger*, are also in good shape despite the hard use of my fingertips. Probably there are not many phycologists who would give them such hard usage.

In the loose-leaf system you would need a separate zinc block for each species and variety, and the cost of 20 or 30 or 40 small blocks would be much more than that of one large full-page block that would illustrate the same 20 or 30 or 40 items. Would the cost of the loose-leaf book be much less than that of a regular hard-cover book with ^{staple}staple construction? Even if it were, would it matter very much, since the NSF has to foot the bill?

You would have to prepare the revision sheets whenever they became necessary, but how would they be distributed? Would the publisher maintain a register of the names and addresses of each individual purchaser? Unlikely, I should think!

But the mechanical features of the book are of less importance, in my opinion, than the visual ones. A "Synopsis" should be truly synoptic, meaning that it should be possible to "view together" many illustrations on one plate, so that the eye can readily perceive their similarities and differences. The best monographers like Nest & Nest and Krieger divided each genus into species-groups of similar shapes, though some of the species in one group may not have a very close genetic relationship, and their illustrations are arranged so that one species (with its varieties) and also several other species of similar shape are displayed on one plate or on a few consecutive plates, so that it is easy to compare them. I have tried to do the same with my plates, though in one instance (New Desm. SE USA) my attempt was frustrated by circumstances beyond my control. Some authors, like Borge in his later Brazilian papers, departed from this custom, trying to squeeze too many figures on to one plate, by placing some of them sideways and filling in the gaps with smaller species of greatly differing shape. Grönblad (Brazil 1945) arranged his figures alphabetically to correspond with his text, but he admits that this was unsuccessful. With a loose-leaf book you would have to turn over page after page after page, then go through them in reverse order, then forwards again, etc., etc., trying to keep in mind the features of each illustration, which would be far less satisfactory than having a dozen species

and/or varieties displayed on one plate. On literally hundreds of occasions I have spent half an hour or even a whole hour turning over the plates in West & West or Krieger, finally concentrating on one or two or three plates, letting my eyes wander from one figure to another and then to my own sketch, comparing their feature by feature, and trying to decide which one of them my sketch corresponded with, or if it matched any of them at all. Your loose-leaf system would possess the advantage of having the description on the same page as the illustration, but that is not enough, I think, to overcome the disadvantages.

Of course you know all this as well as I do, or better. Still it may give you a somewhat different slant on the problem to have someone else's views expressed frankly.

The sample page of the bibliography shows a type-page size of about $4\frac{1}{2}'' \times 7\text{-}\frac{3}{4}''$, and a book size of about $7'' \times 10''$, a nice size. The type selected is a little larger than in other bibliographies, and the space between items makes it easier to read. Glad that you have not italicized botanical names: this is unnecessary I think. I suggest that after the name Anderson, O. Fr. you show in parentheses (O. Borge), because not everyone knows that Borge changed his name. Do you intend to give a complete worldwide bibliography up to date, or only such items as pertain to N. American desmids?

On the sample text page dealing with M. evolutum, the illustration which is reproduced from our 1945 paper, is not quite typical of the species, because it has two central granules one above the other, instead of three granules spaced at 120° intervals around the center. I think that our Figs. 2 and 3 in the 1945 paper, which were identified as var. integrius are more nearly representative of the specific form: neither of them quite correspond with W&W's figure of var. integrius. These remarks are based on hindsight, for in 1943 or 1944 when the plates were drawn and the paper written I didn't know enough about desmids to make such fine discriminations. This was the paper that Francis Drouet criticized so unmercifully and you had to rewrite it, remember?

The sample illustration of M. evolutum is TOO SMALL, even smaller than the original in our 1945 paper. It measures 28 mm high, against 30 mm for our 1945 figure, 33 for W&W 1896 (double the semicell height), and 33 in Krieger's monograph, and even Krieger's illustrations are none too big, in my estimation. Some workers like to see the magnification stated. I don't pay much attention to this, relying rather on the actual dimensions in microns that I have measured myself or that I find in the literature. But the magnification can be computed in a few seconds with the help of a slide-rule, by measuring the length or width of the illustration in mm, and dividing it into the measured dimension of the specimen in microns, and then multiplying by 1000 or shifting the decimal point three places to the right. Even if you don't know how to use a slide-rule you can learn enough about it in 10 minutes to perform this simple division.

Wherever possible the vertical and side views should be given in addition to the front view. I know that you do not have these views for many of my earlier drawings, because at that time I did not sufficiently appreciate their importance, or I was unable to balance the specimen long enough to draw it. Nowadays when it proves impossible to balance a specimen, I roll it over into various positions and thus get enough visual information to make a freehand sketch which I label "approx.", to show that it may not be exact. If there are any instances where you do not have these other views and think them necessary, let me know and I will try to get them for you. All of my collections are in good condition, even though the earliest ones are 22 years old, and if I can find the desmid I can make the other views, or at least a close approximation.

For the text I suggest that the name of the taxon be printed in bold-face, with synonyms in italics. The first few lines giving the references may be indented as you have them. The remainder of the text need not be indented, and this would effect a small saving of space.

Your description of E. evolutum is far, far too long, and should be reduced to one-half or even one-third. You have taken 23 full lines and 8 shorter ones, while Krieger does it in only 12 lines in a type that is slightly larger than yours. Such a lengthy description might be required for the formal description of a new species of complicated morphology, but even then I think much of the verbiage is unnecessary.

It would be nice to give the pH range of the habitats where known. Unfortunately I cannot help with this, except to say that probably 80% to 90% of my USA desmids have been obtained from acid waters, with pH of 7.0 to 5.2, which is the lowest I have measured.

For habitats you mention acid bogs, which is no doubt correct for the northern states. In the sandy flats, savannahs and pine barrens of southeastern USA such acidophiles as E. evolutum are found in abundance in roadside ditches and borrow-pits, small ponds and larger ones that are sometimes dignified with the name of Lake So-and-so, in the shallow waters remaining on river flood-plains after the river has receded, and in several kinds of what I call "swamps", some of which you might call "bogs".

Summing up my comments, I do not think that Krieger's system can be improved upon, even though a bound book is out-of-date as soon as it is issued, because of the constant flow of new discoveries.

I have forwarded the sample pages to Hannah Crossdale, but have not told her anything about my comments, so whatever she says will be her own opinion.

Best regards to you and Tess from Edith and myself.

Sincerely,

Tuesday, March 29 1960

Dear Jerry,

On receipt of your letter from Philadelphia this morning, I tried to phone you at the Sheraton Hotel but was told that you had checked out. If I had been able to reach you I would have liked you to see or phone Dr. Wm. J. Robbins at the American Philosophical Society on Independence Square. Last week my friend Prof. J. Ewan at Tulane sent Dr. Robbins the Ms. of our big paper on Indonesian desmids and asked him to consider it for publication by the Society, and as you probably know Dr. Robbins, who used to be with the N.Y. Bot. Garden, you might have put in a good word for it.

In January this year I wrote the NSF in Washington, sending a carbon copy of the Indonesian Ms., together with a list of 20 papers in which I have participated, and a reprint of our Arnhem Land paper to give a good idea of the finished appearance, and asked them to give an informal opinion as to the possibility and probability of obtaining a grant to defray the publication cost and reimbursement for the money I have spent on it. I heard nothing from them for six weeks, so I wrote again to stir things up. Finally after nearly two months I got a reply that was half-way favorable, saying that they could see no definite obstacles, but they declined to express any opinion as to the probability of success, inasmuch as all applications (in a given class) must compete against one another for the amount of funds available. They don't like to make grants to individuals, so I would have to find a sponsor to handle the money, then get a firm offer from a publisher agreeing to print the paper if a grant is awarded, then two or three estimates of the cost of publishing and distributing, then submit 20 copies of the application, then sit back and wait for not less than four months and possibly six months before a decision is made either favorable or unfavorable. I suppose you know all this from your own experience, but to me it seems an appalling amount of red-tape. The 20 copies of the application get my goat; this is even worse than during the war, when our firm had to submit invoices in 17 copies for articles that we supplied or manufactured on Navy sub-contracts. I can understand how the NSF could profitably use say 5 copies, but it seems to me that the other 15 simply make work for 15 additional filing clerks. Anyway I have given up this idea for the time being, though I may have to return to it. If I do, do you think the Michigan State Univ. would act as sponsor?

No doubt you spoke to Phil Halicki when you were in Philly, and learned that I had asked him to ask if the Nat'l. Acad. Sci. would publish this paper. I had a nice letter from Mr. Rehn, Chairman of their Publication Committee, explaining that as the Academy is a private institution, receiving no financial support from public funds, they have to conserve their funds for papers by their own staff, or by associated scientists who have worked on their collections.

Last week I received from Indonesia two parcels containing a total of 100 reprints of our paper #3 (not #4), and no doubt those that you received are the same. You and I received last year 50 reprints each (free copies), and I asked Anwari Dilmy if he could spare a few more. He declined to furnish any more until we had paid him \$18.90 that we said we owed him for extra reprints of papers #1 and #2, and an additional \$15.00 for extra copies of #3. You had paid him the equivalent of the \$18.90 by sending him at two different times packets of photographic paper worth \$9.00 each, which ~~he~~ he never received. They were undoubtedly stolen in either the customs or postoffice in Java for I have heard of similar occurrences in other countries like India and South America. Then you offered to have the MSU pay the \$18.90 if he would send you an invoice for it. Has he done so, and is the matter straightened out? I have never received an invoice for any of the reprints. If you get a bill for the new lot let me know so that I can pay my share. The new lot of 100 copies of #3 is of little use to me now, and

I will gladly send you 50 of them if you can use them. Our paper #4, dealing with *M. moebii* and *E. turgidum* has not yet been printed; in fact I have not yet received the proof, though the Ms was sent by airmail last June. Then they lost the original Ms and I had to send them a carbon copy. Maybe they will get around to it someday. This publishing in foreign countries is far from satisfactory.

I am quite surprised to learn that Hannah originated the loose-leaf idea for the Synopsis. She is a very practical person, and I would have thought that she would realize, from her extensive searching of the literature for identifications, that the loose-leaf book would be a hindrance rather than a help. It is curious what differing opinions can be held by different workers in the same field.

I have noted the remarks in your last two letters concerning Silva's reply to the paper by Grönblad and myself. But his "tirade" is just about what I had expected, and this is the reason I suggested to Grönblad that our paper should be withdrawn and not published, even though he had already sent it to Dr. Lanjouw for printing in Taxon, but Grönblad did not withdraw it because he did not comprehend what Silva was trying to do, even though I tried to explain it to him. He still does not understand, though Silva wrote him a letter, in which, incidentally, he mentioned that he was not offended by our paper. Just a couple of weeks ago Grönblad asked in one of his letters, "What is Silva trying to do? What is his aim?"

If Silva, in his original proposal, had explained what he was trying to do in ordinary everyday English I think all this confusion would not have arisen. But he seems unable or unwilling to write in plain English. His original proposal, his reply to our paper, and two personal letters to me, are all written in the same kind of gobbledegook that is used in the Code itself, and which I find extremely difficult to understand even though I flatter myself that I have a better-than-average knowledge of English. Think what this must mean to a foreigner, who, even though he is able to read write and speak English, is unacquainted with the legalistic phraseology of the Code

The funny part of all this is that Silva is absolutely right in his contentions. What he is trying to do, in his own peculiar way, is to help desmidiologists, by setting the starting point for all algae back to Linnaeus 1753. I don't agree with this date, for Linnaeus certainly never saw nor even heard of a desmid, because the first mention of desmids in the literature is about 1790, and the first genus recognized today is *Closterium* Nitzsch 1817, as I pointed out in the article; so there is no need to go back any further than this. In the Taxon article I also wrote "So far as we know, all the best desmidiologists for the last 40 or 50 years have used Ralfs 1848 as the starting point". This was my honest opinion at the time, and I think that all those other desmidiologists honestly believed they were using Ralfs 1848 as the starting point. For example, in Krieger's monograph (p. 114) he wrote "Als Anfangspunkt der Desmidiaceen-Floristik wurde Ralfs (1848) angesehen". I believe that all these desmidiologists, and all present day writers (unless they have investigated the matter quite recently), have the words "Ralfs 1848 is the starting point for desmid nomenclature" at their apparent face value. But this commonsense interpretation is nullified by the joker in the opening paragraph of Art. 13 of the 1956 Code which reads "Valid publication of names.....is treated as beginning at the following dates (Ralfs 1848 for desmids)". This means that names published before 1848 were not validly published, and in effect do not exist, unless they were subsequently "validated" in Ralfs' 1848 book, or by someone else at a later date.

The result of this is that, for example, *Euastrum ansatum* Ehrbg. 1838 must, according to the 1956 Code, be cited as *E. ansatum* Ehrbg. (ex Ralfs 1848), which merely complicates the nomenclature and affords more opportunity for errors, and adds nothing to the clarity of writing. But there are other examples that seem downright silly. Ralfs published *Euastrum affine* in 1844, but according to the Code it was not validly published even by Ralfs himself, and it did not become valid until it was republished by Ralfs in 1848. Thus the name of the plant should be cited as *E. affine* Ralfs (ex Ralfs 1848)!!! There is also the example of the plant universally known today as *Closterium libellula* Focke 1847. Ralfs did not see Focke's work, and he

published the same plant in 1848 as Penium closteroides. Under the present Code Focke's name was not validly published, so a new combination becomes necessary, viz., Cl. closteroides (Ralfs) Silva (in litt.) comb. nov. This binomial is a meaningless misnomer, for it signifies "A Closterium-like Closterium", yet under the Code nobody would have any authority to change it.

Silva's proposal, if accepted, would avoid such humbugs, and the necessity for the circumlocution and redundancy in nomenclature such as the other examples I have cited, by making all desmid names valid from the exact date of their first publication. He says that about 30 changes in desmid names would be required, and he has promised to submit a list of these changes for the approval of desmidiologists. I shall probably not live to see such changes adopted, so I intend to continue using the same system of nomenclature that you and I and everyone else has been doing for many years, and to disregard Art. 13 of the Code.

Another bee in Silva's bonnet is the "type method". He thinks that in this day of scientific miracles it ought to be possible to preserve type specimens of microscopic algae. All I can say is that if he knows of any such method or methods he ought to publish them to the world. I have examined some type-slides of desmids made 50, 60 and 70 years ago by some of the best workers of those days; in nearly every case they were practically valueless as types because of shrinkage and distortion, and because they were mounted in media like balsam or Venice turpentine whose refractive indices are too close to that of cellulose, so that the minute details of the wall ornament were not distinguishable. Also I have seen several of Witrock & Nordstedt's Exsiccatae, but all of the desmids were so badly distorted from drying that it was practically impossible to determine their true morphology. The difficulty of preserving microscopic plants is recognized in Art. 10 of the Code, which says that "the type may be a description of figure", and I would certainly want to see this provision retained.

Do you have Nordstedt's 1906 paper "Algological Notes I-IV", in Bot. Not. 1906:97-124? If so would you lend it to me, so that I can see at first hand what he wrote concerning the starting point of nomenclature for desmids?

Also please send me two of the yellow sheets used by the Am. Microsc. Soc. giving proof-readers' symbols. If I have to send the Indonesian paper to Nova Hedwigia I would have to include one of these sheets, for they have a different system of indicating italics, boldface, etc., and the Ms. is underlined in our system.

We have been reading about the terrible weather that you have had during the last few months, and have wondered how you manage to exist and get around. Our winter was chilly though we had only one small freeze, but the total deficit of temperature for Dec. Jan. and Feb. was so large that the winter ranked as the third coldest in the history of the New Orleans Weather Bureau, about 100 years. Today is just about perfect, temperature 75° or more, and the whole city is ablaze with azalea, spirea and "red-bud" in full bloom.

Best regards from

P.S. I'm curious to know just what you would be doing on Bourbon Street!

April 18 1960

Dr. William J. Robbins,
Executive Officer,
American Philosophical Society,
Philadelphia, Pa.

Dear Dr. Robbins,

When Professor Swan sent you the Ms. of the paper on Indonesian desmids by Scott & Prescott there was a small misunderstanding about the sample drawings that were enclosed. These belong to a previous paper, Krieger & Scott, 1957, "Einige Desmidiaceen aus Peru".

Because the value of a systematic paper like this depends so largely upon the quality of its illustrations, I have sent you under separate cover blueprints of the entire set of 63 plates, so that your Committee may be able better to evaluate it. Without false modesty I may say that several of the best desmidologists in this and other countries have told me that my desmid drawings are among the best that are being produced in the world today.

Of course you don't need to examine all these drawings, but if you would like to see some striking examples of the wonderful symmetry of these minute plants, their intricate structure, and beautiful wall sculpture, I invite you to look at Plates 10 to 22, and 42 to 50, depicting some species that very few persons in the entire world have seen. Plates 61 to 63 are of the same kind.

The paper will be the most important ever published for Indonesia, and in fact for the whole of southeastern Asia. The only comparable one for Indonesia is W. Krieger, 1933, "Die Desmidiaceen der Deutschen limnologischen Sunda-Expedition". For India there is the paper by W.S. Turner, 1892, "Algae aquae dulcis Indiae orientalis", which lists a few more taxa than mine, but as I have mentioned in the text it is out of date, unreliable, and many of the illustrations are so poor that they are unidentifiable.

The publication of this paper is so important to me that I am willing, if you think it desirable and worth while, to go to Philadelphia and appear before your Publications Committee at their meeting next month and answer any questions they may wish to ask. I imagine this would be an unusual procedure, but it might be worth a trial. I could leave at any time, with only a few days notice to obtain plane and hotel reservations.

Sincerely yours,

A. M. Scott.
Member, Phycological Soc. of America.
American Microscopical Soc.
Amer. Inst. Biol. Sci.
Internat. Assn. for Plant Taxonomy.
Michigan Acad. Sci., Arts & Letters.
New Orleans Acad. of Sciences.

Cc to Prof. Joseph Swan.

AMERICAN MICROSCOPICAL SOCIETY

DEPARTMENT OF BOTANY
MICHIGAN STATE UNIVERSITY
EAST LANSING, MICH., U. S. A.

May 14, 1960

G. W. PRESCOTT
SECRETARY-EDITOR

Dear Arthur:

It was good to talk to you on the telephone this morning. I had a letter from Hannah (April 28) in which she states that the coming week end would be suitable to her for a meeting, providing it could be on a Saturday. She is busy on Friday at school. Hence, I think I shall schedule the AMS committee meeting for Friday and Saturday morning (if Sat. is necessary) and then the desmid students could meet Saturday afternoon (or possible Saturday morning) and again on Sunday. At least I shall plan on a stay for the three days (Friday through Sunday) and we can use the time as seems appropriate. Hannah is on the AMS committee also and will want to meet with this group, but in view of the shortness of time, I think we should start a meeting of some kind on Friday. In any case, I am planning on going over on Thursday. If there are any drastic changes I shall send you a wire.

Cordially (and hurriedly)-

G. W. Prescott

any
T

Can Edith come too?
Would surely like
to see her.

May 16 1960

Dear Jerry,

Edith and I will arrive at the Sheraton in Philadelphia about 5 pm on Thursday, April 19, and will stay Friday, Saturday and part of Sunday. Some time on Sunday we plan on going by bus to New York, where we will stay two or three days. So the meeting with you and Hannah can be at any time on Friday or Saturday or Sunday morning.

While we are all in Philly I would like, if possible, to arrange a meeting with Dr. Robbins of the Am. Phil. Soc., to talk over the possibility of their accepting our Indonesian paper; this should not take very long, perhaps an hour or so.

See you sometime Thursday evening.

Regards,

MICHIGAN STATE UNIVERSITY EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

June 5, 1960

Dear Arthur:

Hope you are feeling rested up and recovered from your trip north, and Edith too. It was certainly grand to see you folks again--but it worried me to see you undertaking so much travelling about. I think it is better for you to keep up activity, however--just so you do not try too much at one time.

How are you coming with the draft of the proposal to NSF? I shall be here until June 10. After that, write me:
Mountain Lake Biological Station
Pembroke, Virginia

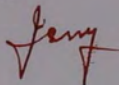
Am I not correct in writing the following:

Allorgeia Gauthier-Lievre, Bull. Soc. Hist. Nat. Afrique du Nord, 49: 97. 1958.

Type: *Micrasterias incredibilis* Grönblad, Prowse et Scott, Acta Bot. Fenn., 58: 19. 1958, (tax. syn. for *Allorgeia Valiaae* Gauthier-Lievre, Bull. Soc. Hist. Nat. Afrique du Nord, 49: 97. 1958).

If I remember correctly your paper was published first. So in transferring the G*P-S species to *Allorgeia*, we should retain *incredibilis* as the type species name. Right?

Best regards till later-



June 8 1960

Dear Jerry,

Edith and I enjoyed our trip to Philadelphia and New York very much, and especially meeting you and Hannah again. Both of us were very tired when we got home, but Edith picked up wonderfully after a few days, and her vertigo has entirely disappeared, perhaps cured by the "popping" of her ears from the changing air pressure in the planes. I am just about the same, with little energy or ambition to do anything.

The jet flight back was not all that is it cracked up to be. We had to leave the hotel too early to get anything to eat; thence to the East Side Airlines Terminal, and then the one-hour bus ride to Idlewild. The plane was supposed to leave at 9:15 EDT, but did not get off the ground until 9:35. After we were up a few thousand feet I noticed that the pilot had cut some of the power to the engines and was flying level instead of climbing to 31000 feet. A few minutes later he announced over the PA system that because of a "malfunction" he would have to return to Idlewild, but before doing so he would have to dump part of the fuel over the Atlantic Ocean. Later we were told that the malfunction was a failure to close of one of the doors covering the landing-gear recess in the wing. After landing they unloaded all the baggage, and asked the passengers to get off and wait in the airport. I refused to get off because it was 2 blocks walk each way. So they allowed us to remain on board and about 10:30 one of the stewardesses served us the advertised "snack" which proved to be an unappetising warmed-up biscuit with a hunk of sausage meat in it and a cup of coffee, which I ate only because I was hungry. The second take-off was 2 hours late, and there was no further trouble. The jet plane is even ~~slower~~ quieter than the Viscount jet-prop and there is less vibration, but the seat was not comfortable for me. You don't get any sensation of higher speed, though we were flying at 31000 feet at about 575 mph; we could see the ground only occasionally through the clouds and it seemed to be moving just as slowly as usual. The temperature when we left New York was about 65°, in New Orleans it was 94°, and since both of us were wearing heavy clothes we were not very happy. Well, you live and learn!

Your citation of Allorgeia is correct; the specific epithet incredibilis has priority because the paper by G-F-S was published first. The situation is complicated by the fact that Gauthier-Lièvre's plant is not identical with the one from the Sudan, as you can see by comparing the two illustrations. Grönblad and I both think the differences are sufficient to warrant making the Congo plant a separate variety, whose name would be: Allorgeia incredibilis (G-L) G-F-S var. valise G-L. This has not yet been published. Grönblad has written her about this, but I gather that she is not convinced. I think I told you that Kuno Thomasson has found both incredibilis and M. sudanensis in material from Lake Bangweulu in Rhodesia. I am curious to see what his specimens look like.

When I phoned you at East Lansing I was under the impression that Prof. Joseph Ewan of Tulane was not going to return the call that I had made to his wife a few days previously. But the very next day he phoned and asked if he could come over to my house, to reread my correspondence with the NSF. He did come, and we had a nice talk, during which he mentioned that he had discussed with Dr. T.T. Earle and Dr. Fred Cagle the question of Tulane acting as sponsor for me on an application for an NSF grant, by designating me as a "Research Associate" or something similar. I have met both Earle and Cagle on a few occasions, but neither of them has had much time to talk to me. I gather that Earle was lukewarm to the proposal, and that Cagle objected to it, because he thought there was something slightly unethical about it. He knows of some instances in which NSF grants have been used to obtain earlier

publication of papers in the fields of physics and chemistry, in which commercial rights to patents were involved. Possibly this is the reason for the statement in one of the NSF booklets that their grants will not be made for the purpose of securing earlier publication of papers.

In the meantime a new and promising development has arisen. You may remember that I got in touch with Vaas and Sachlan through their 1949 paper "On the ecology of some small lakes ~~in Java~~ near Buitenzorg, Java", *Hydrobiologia* 1(3):238-250. After I had started work on the material that Sachlan sent me I wrote him that I proposed to publish the results in *Hydrobiologia*. By that time, however, Indonesia had declared its independence from Holland, the name Buitenzorg had been changed to Bogor, and hatred for everything Dutch had begun to develop. So Sachlan replied that the papers must not be published in *Hydrobiologia*, but that *Reinwardtia* would accept them. That is the reason why *Reinwardtia* was selected for our first three short papers. I have just returned the corrected proof of the fourth paper, which I submitted just a year ago.

Last Saturday, June 4, I received a letter from Sachlan, in reply to one of mine in which I told him that I had not yet found a publisher for the final large paper. He said that Anwari Dilmy had told him that he would try to get a grant from their Natl. Acad. of Sciences to publish it. Also he said, to my surprise, that I could write to Prof. van Oye, because *Hydrobiologia* is not written in Nederlands but in English, French and German; that van Oye is a good friend of Dr. Vaas; and that he had worked in Java in 1917. So I immediately wrote a long letter to Prof. van Oye giving him sufficient information about the paper and the number of plates to enable him to decide if he could handle it, and I asked him to write by return a rmail to let me know if he could accept it and print it within one year, which is about as long as I feel that I can afford to wait. I have high hopes that he can do so, for he knows our work from our previous contributions, and he has already published at least one paper on desmids that was even longer than ours, *Irenee-Marie*, 1952, 207 pp.

So until I get his reply I am doing nothing about an NSF application. If his answer is unfavorable I intend to send the Ms. and blueprints of the plates to Dr. G. W. Rickett at the N.Y. Bot. Garden. I had a very nice reception from your friend Dr. Steere. He glanced through the Ms. and at the copy of our Arnhem Land paper which I had taken along. I got the impression that with help from him and you and Hannah and Prof. Egan the paper may get some special consideration. Prof. Egan is off to California for the summer, but before leaving N.O. he wrote a personal note to Rickett commending our paper to his attention.

When you get settled down in Virginia please drop me a line to tell me if there is any special order in which you would like me to send the dope and drawings of my USA desmids. I have the genera filed in alphabetical order, starting with *Arthrodesmus*, but I can just as easily start elsewhere if it would suit you better. Also let me know if I should send the drawings of desmids that have already been published in the joint papers by you and me, and by Grönblad and me, and the one paper that I wrote myself.

Finally, don't forget the two copies of the yellow sheets with proof-reader's symbols that is used by the AMS.

Best regards from Edith and myself.

Sincerely,

June 18 1960

Dear Jerry,

Soon after I returned from New York there was a letter from Sachlan, reversing his former antagonistic attitude toward *Hydrobiologia*, which was caused by its being published in Holland. He said there is no longer any objection, since it is not written in Dutch, but in English, French and German. He added that I should write to Prof. van Oye, who is a good friend of Dr. K. F. Vaas (former Chief of the Indonesian Inland Fisheries Dept.), and that van Oye had himself worked in Java in 1917 at the Botanical Garden in Buitenzorg.

I wrote immediately to van Oye and received his reply by return airmail, accepting our big paper, and saying that he would try to publish it in one issue in about eight months, even better than the one year that I had asked for. So the Ms and drawings are now on the way to Belgium, and a big load of worry is off my mind.

Have you seen the paper by Woodhead & Tweed on Sierra Leone algae (principally desmids and diatoms) in *Hydrobiologia* XII(2-3): 181-225, Dec 30 1958? The paper is practically worthless because of the wretchedly poor illustrations, mis-shapen, distorted, lopsided, insufficient characters shown, vertical and/or side views lacking, and in one case the side view is not compatible with the front view of the same desmid. There are 32 new desmid taxa, some of which are certainly wrongly identified, others highly doubtful, and there are very few that I would trust.

Grünblat was so incensed that he wrote to Dr. J.M.G. Lund, asking if he could find any way of letting Woodhead & Tweed know how poorly their work was regarded by other phycologists, perhaps by a review or criticism in an English journal. Lund replied that there was nothing he could do, for Woodhead is an older man, and of a type who would not take kindly to, or be influenced by any criticism, no matter how inoffensively it was worded. Lund placed the blame on van Oye, who should have rejected the paper, with which I agree. It is evident that van Oye does little editing, as witness the numerous careless and silly errors in the spelling of authors' and botanical names in Irénée-Marie's papers that have appeared in *Hydrobiologia*, and which any editor who is himself a phycologist should have noted and corrected.

Nevertheless there ought to be some way in which Woodhead & Tweed can be made aware of the poor quality of their illustrations in particular, and of their errors in determination, and careless errors in spelling. For instance, *Triploceras* is spelled with -es in the final syllable, and a new variety is variously cited as *Tr. gracile* var. *africanum*, *Tr. gracile* var. *africana*, and *Tr. gracilis* var. *africana*. The plant itself is probably identical with *Tr. verticillatum* var. *superbum* (Mask.) Nordst. f. *angustum* Grünbl. & Scott in our Sudan paper dated Feb. 3 1958, of which I sent them a reprint somewhere around May or June 1958. They evidently intend to publish ~~more~~ more novelties, for in a previous paper "A check list of tropical West African algae", *Hydrobiologia* XI(3-4):299-395, July 27 1958, they state that half of their collections from the Sierra Leone region have yet to be examined.

A couple of weeks ago I had thought of writing to van Oye myself, but that would be unwise now since he has just accepted our Indonesian paper. Can you think of any other way? *Hydrobiologia's* letter-head has a list of a dozen prominent men, including Wm. Randolph Taylor. Do you think you could induce him to take any action?

Grönblad had a serious heart attack about the end of May and was rushed by ambulance to another town about 20 miles away, where there are better hospital facilities than in Karis. I had a pencilled note from him about a week ago saying that his condition is improving and that he is allowed to sit in a chair for part of the day.

I have ordered 100 reprints of the Indonesian paper for myself and 200 for you, but if you think you will not need that many let me know promptly and I can change the order. The paper will run to about 150-160 pp and so will be fairly expensive; on the other hand it is an important one that will be in demand for many years.

Enclosed is a bill for my expenses to Philadelphia. You will see that I have charged only for myself, nothing for Edith, and have kept the cost to a minimum.

I am sending you separately the Russian book on Cyanophyta that we talked about. It is of no use to me so you may as well have it.

Best regards from

June 18 1960

Dr. G. W. Prescott,
Michigan State University,
East Lansing, Mich.

Travel expenses from New Orleans to Philadelphia and return, May 19-21,
attending conference on "Synopsis of the North American Desmid-Flora".

Round trip airplane fare, including Federal tax	\$165.88
Sheraton Hotel, Philadelphia, room, 2 nights @ \$7.28	14.56
Limousine and taxicabs to and from airports	6.00
Meals, 2 days, including gratuities	<u>10.50</u>
	\$196.94

Mountain Lake Biol. Station
RFD No. 1
Pembroke, Virginia

June 20, 1960

Dear Arthur:

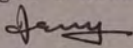
Glad to have your letter of June 8, but sorry to learn of the jet-flight fiasco. That could have been such a pleasant trip. It seems to me that air travel presents more of the unexpected and the unplanned than any other form of transportation. Very seldom have I ever made an air trip and have had plans work out--always a delay- bad weather- connections missed, or something. They can go ahead and brag about their swift, comfortable service--but we all know better.

Plans for publication are certainly not dim. Am glad to learn of the several possibilities. I think it would be highly appropriate for the paper to appear in Hydrobiologia--and it would be pleasing to us because of the wider distribution and status of Hydrobiologia. Do hope you have a cordial reception from van Oye. The possibility of going to N. Y. Bot. Garden has some advantages.

When and as you have time to get your desmid drawings together (for North America) it would be well if you could group them according to genera and marked with some little sign to indicate whether the drawing has been published--or whether it is an unpublished species. Then we shall take your set of drawings and check against the list of species already prepared for our publication, and shall project (and trace) from your drawing. I hope to have a 3X magnifying lens by next fall to use in place of the 5X. I sent Hannah a big handful of over-size drawings (at her suggestion) to see how feasible it would be for her to reduce them to a more feasible size. Actually, I do not think that a large-size drawing will present any great trouble when it comes time to prepare for the printer because they can be reduced in photographing. We would mount all the large forms on a large plate and have the entire plate reduced. To answer your questions more specifically--I think it would be well if you could send the entire set of your drawings (both published and unpublished)--giving us an opportunity to select more favorable figures.

We are more or less settled here on the mountain top--after only three days. Gerry and her two youngsters are with us and they seem to be having a good time. Gerry and Donna have gone down the mountain to Blacksburg for church and Tess is riding herd on the bombastic little Carl.

Our best to you and Edith. I hope she is well rested after her trip. At your convenience, send me receipts for your travel to and from Philadelphia and at least one night's hotel and meals for the days related to our meeting. Cordially-


G. W. Prescott

July 22, 1960

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

Dear Arthur:

I have ^½ caused here to complete some odds and ends before taking off to Barrow. Amotn other things I wanted to settle the account for your travel expenses to Philadelphia. Inclosed please find check for \$196.94 as per your statement.

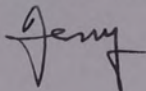
I am ever so grateful to you for the Russian work on blue-green algae. This is the book which was 'removed' from my office by someone. It is not understandable but the combination of species is of great interest and I am glad to have it. I would appreciate it, however, if you would tell me how much it cost because I would like to keep up with my bills. Let me know--I am sure you must have put out money for it.

Sorry I do not have time to write you the good letter you deserve. We arrived yesterday afternoon after a hard dribe from Virginia and are getting re-packed for Alaska. Tess is going as far as MxKinley Park with me to spend a few weeks.

Among other interesting items which I turned up in Virginia was a whole stream bed full of Coccardium stratum. Have you ever collected it. Perhaps if not, you would like to have some. I preserved quite a bit in 6-3-1 hoping that there will not be enough acid to dissolove the calcareous tubes.

Best regards to you intil later. Write me as below. Best wishes to Edith too.

G. W. Prescott



Arctic Research Lab.
Point Barrow
Box 1070
Fairbanks, Alaska

Sept 18 1960

Dear Jerry,

Several things combined to prevent me from writing while you were in Alaska, and I did not know where you would go after that, so I decided to wait until I knew you would be at home.

Many thanks for the check covering my expenses to Philadelphia. I noticed that it was drawn on your personal account, and I hope that doesn't mean that the money comes from your own funds. Enclosed are the stub of my airplane ticket, and a copy of the hotel bill at the Sheraton; these amounts of course are larger than those that I billed you for, so perhaps these vouchers may not be of much good. If so just destroy them, I have no more use for them.

A few days ago I received two packages containing 100 reprints of our fourth and last paper in Reinwardtia; again without any invoice. Probably you have the 200 copies that I ordered for you, and if you have an invoice please let me know my share of it. I hope soon to receive the proofs of the final large paper to be printed in Hydrobiologia.

You don't owe me anything for the Russian book. I ordered it on the mistaken assumption that it would contain some Desmids because Kossinskaja was one of the authors, but since it deals only with Cyanophyta it is useless to me.

Handar sent me some of the huge 5x enlargements of Ruastria and Micrasterias, and asked if I had any of the species or varieties among my drawings. I did have some of them and sent them to her, and she can probably use them without either enlarging or reducing. I hope that you now have the 3x projecting lens, but what you really need is a lens in a sliding barrel mount that can be adjusted to give any desired enlargement from 2x upward. Here's a suggestion that might help. At any camera shop you can buy inexpensive auxiliary lenses that are made in several different diameters, and mounted in aluminum rings that slip over the regular camera lens and change its focus. They are simple uncorrected lenses that cause a small amount of distortion but that would not matter for your purpose. They are made in different focal lengths, plus 1, plus 2, plus 3, and minus 1, minus 2 and minus 3; these numbers are arbitrary and simply indicate different "strengths", the #1 having the longest focus and being the "weakest". If this series of auxiliary lenses ix does not fit your projector, the optician from you get your spectacles could easily order from his lens grinding shop some simple lenses of any reasonable diameter and focal length, which should not cost very much, and it should not be difficult to devise some way of attaching them temporarily to the projector lens.

The postman has just brought me a letter from Anwar Dilmy dated June 29 and forwarded by surface mail, though the envelope was marked "Airmail", perhaps because of insufficient postage; I am enclosing it and would like you to return it. I don't understand the reference to an invoice for \$18.90 which he has sent you, unless it is a receipt for the sum you have already paid. His final paragraph refers to the final large paper "Indonesian Desmids", which has been accepted by Hydrobiologia, and which Prof. van Oye hopes to print next Spring.

In the paper #4 there is a curious misprint on p. 338, line 3 from top, reading "Algae l.c. quae dulcis Indiae orientalis". In the proof the typesetter had used a capital A for the word "aquae", which I struck out, and inserted in the margin the symbol "l.c." for "lower case". Evidently this symbol is not understood in Indonesia.

Best regards from

Dec. 13, 1960

Dear Arthur:

Was so very glad to hear from you by telephone the other night, but so very sorry to learn that you are not your old self. Surely your doctor can give you some physiological aid. Is there some trouble aside from your heart condition? Take it easy whatever you do--and I guess that is what you have in mind by your suggestion to send your desmid drawings here. I wish that you could come with them, however. We shall follow your suggestions on this and let you know what and how they are to be used. Hannah was thinking of going to New Orleans to do some work on them, but she can come here--which may be even better for all concerned and for the survey, because she will have all of my drawings and the iconograph to work with at the same time. We shall take good care of your drawings of course. I have an assistant here now who is working on the desmid material and he can help with the checking of your list against what we have and what we still need.

It would be wonderful if we could have another 'committee' meeting after we have finished compiling the drawings so that we could discuss the text material. If we have enough money left we should do that-- meet in New Orleans sometime when you are feeling up to it. It is a boon to the survey that you have such a great store of forms drawn--and I dare say there are many, many species that you have not published on which should be included.

I was very shocked to learn of Irene-Marie's death. Where have I been that I should not have learned of this. No one has mentioned it. I suppose you have known of it for months and perhaps Hannah too but no one mentioned it. I suppose the news came when I was out of the country or something. I regret that I never had an opportunity to meet him--although I do not talk French and I understand he does not talk English--at least not much. For one so isolated he certainly made a great contribution to phycology.

There are many things to discuss with you. I have put off writing so long--just as I have put off writing to other friends. There have been so many unexpected complicating events here this term that I have become hopelessly bogged down. After I get the matter of change of printer settled for the AMS things will not be quite so bad, I hope.

I am glad that you called and told me about the price of the reprints for the forthcoming publication. I had received a notice from van Oye but did not know what the price was and would have ordered many more copies that I could ever have paid for if I had not know from you what the price was to be. I did not order any-- told van Oye that my order would be included with yours.

One time I wrote to you about the way that I was listing *Allorgeia* for the Intern. Bot. check-list of genera. The listing I gave was: *Allorgeia* Gauthier-Lievre, Bull. Soc. Hist. Nat. Afrique du Nord, 49: 97. 1958. Type: *Micrasterias incredibilis* Grönblad, Prowse et Scott, Acta Bot. Fenn., 58: 19. 1958 (tax. syn. for *Allorgeia* Valiae Gauthier-Lievre, Bull. Soc. Hist. Nat. Afrique du Nord, 49: 97. 1958.) You kindly checked this and wrote that the statement of the systematics was correct. I believe the case hinges on the fact that you *Micrasterias* was reported first, but that the consensus is that the genus should be *Allorgeia*, hence the correct name would be *Allorgeia incredibilis* for the type species name in the literature. Papenfuss does not accept my statement--so now I am puzzled.

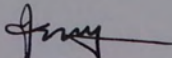
MICHIGAN STATE UNIVERSITY EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

If you can see where I have slipped up, I would appreciate it if you would tell me. I had understood that your plant had been reported on first but that the new genus was a better assignment for your plant than *Micrasterias*. It certainly is difficult to conform to all the complicated and complex rules as laid down by the International Code.

I do hope you and Edith are taking things easy and getting back on your feet- as it were. We think of you so often and of how you are. I wish you folks lived a little closer so we could see you often.

Best regards until later.-



G. V. P.

Dec 17 1960

Dear Jerry,

The reason I suggested sending you all my drawings of USA desmids without listing or tabulating them is that I simply do not know when, or if, I can summon up enough energy to undertake it, and it is useless to leave you under the impression that I can do it. I have fallen into such a state of lassitude that I have no ambition to do any work at all, even on my beloved desmids. The doctor has given me "pop" pills that were supposed to improve this cognition, but they seem to have no effect at all.

Hannah told me some months ago that she hoped to come to New Orleans soon after the New Year, but I'm afraid this will not be possible, for Edith will probably have to undergo an operation for cystocele. We have not quite decided on it, but there seems nothing else to do. She would go into the hospital about Jan. 10th, stay there for a week after the operation, and then would convalesce at home for about another two weeks.

As you suggest, it will be better under the circumstances for Hannah to go to East Lansing, where she will have better working conditions, and access to your own drawings, your iconograph and card index, and your such larger supply of literature. I am sending her a copy of this letter so she will be acquainted with the facts.

I did not know about Franco-Marie's death until your letter, though I knew that he had been in poor health for some years, and as a matter of fact I wondered why he had not acknowledged the last reprint that I sent him; he was always meticulous about that. Brunel is the only phycologist who knew him personally, I believe; at least I never met anyone else who knew him. Perhaps Brunel might be able to arrange for you to borrow I.-M.'s original drawings. It would be worth looking into.

As I told you on the phone, I was disgusted and infuriated by the careless way in which Myrdoblogia handled our Indonesian paper. It is not van Oye's fault, but rather that of the publisher's editor, or copy-reader, or whatever his title may be. To keep the number of pages to a minimum and thus reduce the cost, he has compressed the text to such an extent that it makes a very poor typographic appearance; in fact I don't consider it typography at all, just mere printing with no style whatever. To save time, which was a primary consideration with me, he omitted the galley-proof and sent it to me in page form, when it is too late to change it much. The linotype operator must have been an apprentice just learning his trade, judging from the large number of wrong letters, omitted accents and umlauts even in such frequently repeated names as Breb., Mäg., Bärge., Grdnbl. Whole words have been omitted, and in several instances type has been set twice for entire lines, or sentences, and even for half a page of the text. One page of my Ms. has been lost and not set in type. They have disregarded my wavy underlines indicating bold-face for the new epithets, and have set the entire name in italics. I have just learned from the manager of the Tulane Printing Shop that on a linotype or similar machine, bold-face cannot be set in the same line with italics, except by expensive hand work, but there was nothing to prevent them from setting the new epithets in some different style, say small caps or italic caps. The "Leads" or line-spaces between items indicated in my Ms. were omitted. Admitting that this may have been necessary to save space, the copy-reader should have had sense enough to indent the first line of the next item, which was not done. I made a special request that the "Explanation of the Plates" should be printed with a separate line for each item, and I even offered to ~~xxxxxx~~ pay them up to \$250 if they would print

the plates of illustrations on the right-hand page with the corresponding explanation on the verso of the preceding page, and pencilled instructions to this effect were written on the first sheet of the "Explanation of Plates" in my Ms., but had been crossed out in ink, and disregarded. Instead, they have set the Explanations in 6-pt type in solid paragraphs, one paragraph to each plate, which was precisely what I had asked them not to do.

Well, I wrote a 4-page letter to Van Oye, with a carbon copy to be sent to the publisher, protesting against all these unauthorized departures from the style indicated in my Ms. Also I made suggestions for improvements that can still be made because it will be necessary to re-page about two-thirds of the proof on account of their own errors. I asked them to insert 2-pt leads between items, and to compensate for this by a slight increase in the height of the type page, which would enable them to print 46 lines per page instead of 44. There has not yet been time for their reply, and I am curious to know what they will do. I have ordered 75 reprints for myself plus 10 extra copies of the plates; and 75 reprints for you, and I will pay for all of them. If you got some research money at some later date you may perhaps be able to reimburse me for some of them.

Perhaps the nomenclature/systematics/synonymy of Allorgeia has been clarified by Kuno Thomasson's recent paper "Notes on the Plankton of Lake Bangweulu, Part 2", in which he has published Allorgeia incredibilis (Grönbl., Prowse & Scott) Thomass., comb. nov., in KIKK Nova Acta Reg. Soc. Sci. Upsal., Ser. IV, (17)12, 1960, but note that he cited the original authors erroneously as (Grönbl. & Scott) instead of (G., P. & S.). Also he failed to finish the job, by omitting to publish the new name for Mme. Gauthier-Lievre's plant, which will have to be known as A. incredibilis (Grönbl., Prowse & Scott) Thomass. var. valiae Gauth.-Lievre, when somebody gets around to publishing it. As I have mentioned before, her plant is not identical with the one from Lake Imbedi in the Sudan (though she seems to think so), but differs enough to make it a new variety but not a new species. You did not say what Papenfuss objects to in your listing, so I cannot comment on it, but as far as I can see it is correct.

A couple of months ago Grönbl. told me that he had received a new book on desmids from Kossinskeja, so immediately I wrote to her asking her to send me a copy, and it arrived a few days ago. It is a large book, about 7" x 10" with more than 700 pp, cloth-bound, published by the Botanical Institute V. I. Komarov of the Akademii Nauk USSR in Leningrad. The price is 40 rubles 70 kopeks up to Dec 31 1960, and after that 4 rubles 07 kopeks in the recently revalued rubles, or a little more than \$10.00 plus about \$1.50 postage. I have not received an invoice, and I take it to be a complimentary copy, as she has inscribed my name. It covers the genera Penium through Micras-terias, plus a lengthy introduction dealing with morphology, cytology, cell-division, zygotes, crystals, etc. A large part of the text figures, and many of the plate illustrations are copied from West & West's and Krieger's monographs, to whom she is careful to give credit. But since she was not limited by cost considerations she has been able to give many additional illustrations of her own, and others copied from Russian authors. It is surprising that her bibliography lists so few papers by American authors, and I wonder if all those that I have sent her during the last 10 or 12 years have reached her. You are represented by two listings; Prescott & Magnotta 1935, and Prescott & Scott 1945 (Suastrium I). Two of Hannah's papers are listed. I forgot to mention the title of the book. In Latin it is "Flora plantarum cryptogamarum 333R. Vol. 5. Desmidiaceae, Fasc. I".

No doubt you and Tess are going away for the holidays as usual, so I will not send the drawings until you return. Please write me a few lines by return mail and tell me when you will be back in East Lansing, and I will send the drawings to arrive at that time.

Best wishes to you and Tess from Edith and myself.



AIR MAIL-POSTAL CARD

Mr. A. M. Scott
2824 Dante Street
New Orleans
Louisiana

Dear Arthur: Glad to receive your good letter, but sorry to learn that Edith must take time out for a hospital visit. Perhaps she will feel much better for it. I read^d your analysis of the printing fiasco with great interest. I am sure that your reply was a good sermon to the printer and to the editor. What a pity. It will make a fine paper anyway. Thanks for your comments and word on the statement for Allorgeia. I feel confident that that is the way it should read. No, we are not going anywhere this vacation- much to Tess' disappointment. So we shall be here and I can receive the drawings any time that you think it safe to put them into the care of the mails or express. You may send them to the department address (collect) and I shall pay for the charges through the college office. Best regards to you both. Take it easy! Cordially-

Gary

12-20-60

Sunday, Jan 8 1961

Dear Jerry,

I haven't yet been able to get the boxes of drawings off to you.

On Christmas day Edith had what appears to have been a mild "stroke", caused by cerebral arterio-sclerosis, which in turn is due to old age. She was unsteady on her feet, and had lapses of memory. So the doctor ordered her into the hospital, where she is doing as well as can be expected. I had hoped to bring her home today, but this morning our doctor said she must remain there for a few days more, possibly a week. Her condition is not too serious, but the ailment is one that will require a long time to correct itself, and there apparently is not very much that can be done with medication. The operation that I mentioned in my last letter will have to be put off indefinitely.

The publishers of *Hydrobiologia* wrote offering to make some of the changes in our paper that I had suggested, i.e., they will insert leads between items, and will print the legends for each of the plates on the verso of the preceding one in return for a partial subsidy of \$200.00, to which I have agreed. I don't know if they will submit another proof.

I am sending a copy of this letter by airmail to Hannah, and will try to get at least one of the boxes of drawings off during the coming week.

Best regards from

MICHIGAN STATE UNIVERSITY EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

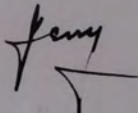
Feb. 7, 1961

Dear Arthur:

Surely glad to have your letter and to know that Edith is coming along well. That is certainly great and must be quite a relief to you. I know she will behave herself and take things easily. Thanks very much for the vitae--just what I wanted.

The drawing arrived safely and we are about to go to work on them. Thank you very much for putting these at the disposal of the project. I am not quite sure yet as to how we can use these to the best advantage--must do some careful planning. Hannah is planning on coming here in the spring, I think, and we shall talk things over and then write you. In any case you may be sure that we shall take good care of the drawings. You remember how crowded my lab. and office is (or was when you were here). It is much worse now and one of my main problems these days is to keep all these various projects and their material in order and so that we can work efficiently. As it is-- I am afraid that we cannot be very efficient. The cumulative index for the Transactions is messing things up--both because of the card files and because of the work and the time involved. If I allowed myself I could go off on a real griping and complaining spree--but what is the use.

More later. Best regards to you both.



May 12, 1961

Dear Edith and Arthur:

Just got back yesterday from a short trip and read your letter, Edith, with both the good and bad news. How miserable you must be, Arthur. We are certainly sorry to learn of such an unfortunate and such a queer 'accident.' Do you have to have a cast-- or only a strapping up? In any case I know it must be uncomfortable and a hindrance-- especially if it is hot already down there--and I imagine it has not been cold, judging from the weather reports. Well it is good that you can be at home now, Edith. You certainly had a long drawn out bad time and it must be quite a relief to be back. I expect you can both keep caught up on reading anyway. I hope your Alice is still with you.

This has been such a crazy year--and lately it has been idiotic. I should have taken time to write sooner though-- I certainly thought about it often enough. The desmid work is going along. Danny is a great help-- transferring and compiling drawings. We are running into a bit of trouble trying to find really good drawings for some of the reported North American species. We may be forced to use some drawings of European plants. Hannah thinks she cannot come until next year--but she has her NSF grant-- as she may have written you, so that she has a year off from Dartmouth--or at least a part of a year. Of course she cannot leave her mother alone so she is limited in her movements.

I can see vividly the New Orleans streets at this time of year. They are always showy. What do you do about driving? Can you get out at all in the car. I wish I were there where I might be able to do some little thing for you. We thought about you Edith when we went down to the Michigan theater to see a famous Spanish dance team. Tess says the 'down-step' is just the same. I wonder how many other persons have fallen and broken things on that step.

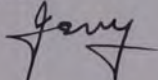
Made a trip to Iowa--back to my 'alma mater' to give a talk before a botany faculty-grad. student club and had a nostalgic time. First real visit I have had there since leaving back in 1929. Horrible--that was thirty years ago. I simply cannot be that old.

The project in Alaska has finally ended. My man arrived a week or so ago and we are busy with the data-- trying to reduce everything to graphs so that we can see any possible correlations. Also I have a chap working over collections for algal species. As one might guess--the desmids are the most conspicuous components of the flora as a whole. I think we have a few new ones.

Arthur, what shall we do about your new Florida species. Do you not think they should be put into a paper for publication before becoming part of the synopsis?

I hope this finds you both as well as possible and on the mend. We shall be glad to hear how you are getting along if you can find time to drop us a line.

Cordially but worried-



May 20 1961

Dear Jerry,

Edith does not remember just what she wrote to Tess, and of course I do not know either. Apparently you are under a misapprehension; I had no accident, nor am I wearing a sling or cast. What happened is that I was in the hospital for one night, for a cystoscopy the next morning; an unpleasant experience, and the after-effects very painful. A week later the urologist used a sound (a tapered metal tube curved at one end) to dilate the neck of the bladder. This was done under local anaesthesia, but after this had worn off, WOW, it felt like liquid fire passing through the urethra; the worst pain I have ever experienced. And now that I have just about recovered from this, he is going to do it again next week! Apart from this bladder trouble I am in my usual state of health, which means not very good. The least exertion leaves me short of breath; I have to take pills to sleep at night, and I have no energy nor ambition to do anything except sleep, eat and read.

When I applied for a renewal of my driver's license a few months ago, I failed on the visual test, a new requirement in this State. So now my license permits me to drive only during the daylight hours. I have no difficulty with this, but I take the car out only twice a week, once to the bank for money, and again to the supermarket for groceries. A month ago I drove Edith to Morgan City, about 75 miles each way, but this was almost too much for me, and there is little pleasure in driving on the crowded highways. Edith is back to normal again, thank the Lord. Last week she took a taxi downtown to do some shopping on Canal St., and managed very well.

The big Indonesian paper was published in *Hydrobiologia* about the first of this month, so if you are a subscriber you ought to see it very soon, though it will take some more weeks before the reprints arrive. I ordered 75 for you and 75 for me, all charged to me. Later I will send you a list of the persons to whom I will send them, only those who are actively engaged in desmid taxonomy. I had a request from a man named H. D. Kumar, Algal Physiological Laboratory, University College, London, Eng. I have never heard of him; have you?

All of the novelties from my U.S.A. collections, including Florida, were published in the paper by Scott & Grönblad, "New and interesting desmids from southeastern United States", as you will see if you re-read the introduction. Of course I had hoped and intended to publish a complete listing of all of them, including the known species, with additional illustrations of some of the rarer kinds, but it is very doubtful if I shall live long enough to do this. It is a pity, in view of the thousands of dollars and thousands of hours of work that I have expended on their collection and study.

Do you know Phillip Halicki's present address, and whether or not he completed the bibliography of Antarctic algae that he was assembling in 1959? A month ago I received a request from Minoru Hitano to try and get for him a microfilm of the following paper:

Wm. West. 1911. Freshwater Algae. Brit. Antarctic Exped. 1907-09. Reports of the scientific investigation. I:VII. London.

Strange to say this paper does not appear in any bibliography available to me. I thought Phil might have found it, and that's why I wrote him at the Acad. Nat. Sci., in Philly, asking him to have a microfilm made if they had the book. Not hearing from him I wrote Ruth Patrick on April 27, giving the reference, and at the same time sending her a sample of S. Australian material containing an extremely rare diatom, Stauronella fulmei Brightwell. Again I had no reply, so on May 12 I spent about \$10 on a person-to-person

telephone call to her. She claimed that she had not received either my letter or the sample, which I believe is a prevarication, for neither of them has been returned to me, and I am quite sure that they were properly addressed. Anyway I gave her the reference over the phone, and she promised to let me know whether or not it was available in their library. But once more, no reply to date (May 22).

Do you happen to have this paper by Wm. West, and if so could you have a microfilm made for me? I would like to know first what it would cost.

Best regards to you and Tess, from both of us.

July 2, 1961

Dear Friends:

It was such a relief to have your phone call and to hear your voices. Thanks very much for calling. Your message came just in time to cancel out a letter I had written. The card that I received led me to believe (I guess I always think of the worst) that you, Eglith, must be ill and unable to write, and with Arthur in the hospital things must be quite complicated. Surely hope you are well on the mend. I know it will be difficult to remain semi-sedentary for a while--but you will make the adjustment and I hope you find things to do without putting on any kind of a strain. It is good that the weather has not been unfriendly.

We wish you were here to enjoy this coolish-warm northwest with its magnificent scenery. We would like to take you on a drive up through Glacier to Waterton Lakes in Canada and then on to Jasper Park. We have been to the park only once this year so far--except last night on a short trip to the western zone. We went up early to the top of Logan Pass just to see the remains of the big winter snows. Where there were bare spots the glacial lilies were all in bloom, and the wind flowers. We saw only one bear (enough)--but Tess always wants to see a bear and deer. Personally I do not need to see any more deer--one deer is about like another as far as I am concerned--but I do like to watch bears perform. Last night some friends invited us to have dinner with them at a cafe at the south end of Lake MacDonald where their daughter is working this summer. We had a good steak dinner and then took a drive along the lake further up into the Park through the hemlock and cedar forest. On the return trip we called on the Chief Park Naturalist with whom we were slightly acquainted. It was like walking into an art museum. Besides all the arty things they had collected in their travels they had many items that they had created themselves. The woman paints--beautifully--makes tile work objects, etc. It was quite a treat. Made me want to start some more smears in pastel.

As I said over the phone, Arthur, I only recently received the copy of Hydrobiologia with the new paper. It makes a very substantial and impressive report. I heard that the reprints had arrived at E. L. and I have asked to have a few sent out to use for distribution. I shall try not to send them to the ones to whom you do. I see that you are properly listed in the United Nations list, Fisheries Division, Biology Branch (Tech. Paper No. 7) of the persons specializing in algae. This list is a useful one for addresses--all the foreign ones, and up-to-date too. Did you receive a copy?

When you can, and when you feel well enough to do odd and ends, please let us hear from you. Until later--best wishes--and thanks for your thoughtfulness in phoning. Hannah is still at Dartmouth- I checked her last letter.

Cordially-

Jerry

AMERICAN MICROSCOPICAL SOCIETY

DEPARTMENT OF BOTANY
MICHIGAN STATE UNIVERSITY
EAST LANSING, MICH., U. S. A.

G. W. PRESCOTT
SECRETARY-EDITOR

Dear Arthur & Edith:

How are you all? Surely glad to have your letter and to know that you were taking it easy at home. Thank you very much for the list of exchange addresses (names). I shall find this very useful when I get back to E. L. and have a chance to mail out some reprints. I have forgotten what my share of the bill is. You must let me know what the charge was for the reprints of the plates. Those are certainly valuable. I had a girl working here this summer and got her to mount all the Indonesian figures in the iconograph.

Now--already-- come the frantic and blue days of packing up all this mass of material and getting ready for the closing. Aug. 12 is the last day--it seems only yesterday that I unpacked all these boxes of iconograph, books, aquatic plants etc.

I am afraid you have been having very uncomfortable weather--judging from the reports. It has been hot even here and the fire situation is very tragic. Five or six huge fires are burning in the region south and west from here. So far the Flathead has been spared--but the air is saturated with turpentine and just a spark would set off the whole place. You have air conditioning so I expect you can keep fairly comfortable as long as you are inside. Believe me we are certainly thankful for air conditioning in the car. Just made a two day trip with 2 classes to the Waterton Lake Park in Canada. Had a grand time--and some good field work. Revisited that little acid bog up there which is just soup with desmids--so far have found nothing new--but it is a good place from which to get records for Montana distribution--of which there are few in the literature.

For a week or so after today my address will be General Delivery, Salem, Oregon. Be there a few days and then go to the science meetings in Lafayette, Indiana--which I

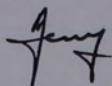
MICHIGAN STATE UNIVERSITY EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

relish at all. I am selfishly opposed to having that convention always in the hottest part of August--smack in the middle of whatever free time I might have--and at a time when no one is in the mood for getting packed into a small lecture room to listen to a droning speaker.

I do hope you are both well or getting that way fast. Please drop us a line when you can and give us a report. Tess joins me in sending regards. She is looking forward to a visit with her folks in Oregon.

Best regards to you.



8-6-61

MICHIGAN STATE UNIVERSITY EAST LANSING

DEPARTMENT OF BOTANY AND PLANT PATHOLOGY

Sept. 21, 1961

Dear Arthur:

How are you and Edith? I am glad that the big hurricane missed you. That certainly was a tragic storm for many persons. I hope you are coming along very well. The hot weather must be about over.

We have been home nearly a week--have been busier than scat working down through the pile of accumulated chores. The Science meetings in Lafayette were 'good'- but insufficiently hot and sticky. I was thankful to get back on an air conditioned train headed west.

Am inclosing a copy of an interim report on the desmid survey. I could not write much of interest--but they need a progress report. I think we are really making some progress--but how very slow it is!

Shall write more when I have time. Best of everything to you both-

C
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Sept. 21, 1961

INTERIM REPORT

To: National Science Foundation
Program for Systematic Biology

From: G. W. Prescott
Dept. of Botany
Michigan State University
East Lansing, Michigan

Subject: Interim report: NSF G-13281. A Taxonomic and Ecological Survey
of North American Desmidiaceae.
Principal Investigator: G. W. Prescott
Collaborators: Dr. Hannah T. Croasdale, Dartmouth College
Mr. A. M. Scott, New Orleans, La.

To date 3,400 desmid species (and varieties) have been compiled from North American literature, recorded in a card file with publication citations. For the majority of these (about 95%) illustrations have been obtained from the literature or from the collections of the investigators, and have been compiled with proper notations.

Work has been in progress during the past year wherein drawings have been re-executed for publications. Somewhat less than one-half of the 3400 forms are now drawn and ready for transferring to plates. While this work has been in progress, several collections from the field have been examined (a continuing project) and from these distributions records have been extended and some forms added to previous records. These collections include material from Montana, New York, Alaska and California.

The work of analyzing the above mentioned samples is progressing slowly at present because of the resignation of the trained assistant who has been employed. It is hoped that another helper will be found in the near future so that this part of the work can be speeded up.

Some water analyses have been made in an attempt to correlate sesmid-prevalent floras with water chemistry, especially with micro-elements. To date these analyses have not given significant data. Therefore this phase

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of the work is going to be repeated and continued with the objective of determining more precisely the ecological factors related to desmid distribution and occurrences.

The related project of checking world literature on desmids is continuing. Many hundreds of references have been checked in the library and the card file bibliography is being maintained and kept up to date. The iconograph of desmids is being maintained at the same time. During the past year 55 papers were abstracted and plates from them photostated for use in the iconograph.

G. W. Prescott

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COPY
The Hunt Institute for Botanical Documentation
P.O. Box 115
Pittsburgh, Pa. 15260
1924

Jan. 20, 1962

Dear Arthur and Edith:

We are wondering how you are and what sort of a winter you are having. I have been so very negligent about writing to you--not that I have not been thinking about you. It seems a long time since we have heard from you and I do hope that this does not mean that you are ill.

Business is 'worse' than usual here--but we are pushing along--with the desmid work and with the AMS index and with the editing and with the rewriting of the books. Both of the books are being reprinted - the Great Lakes book is supposed to be off the press now but I have not seen it. The two or three large genera of the desmids have been compiled (Euastrum-Cosmarium-Staurastrum). The others will not require quite so much time. I need someone to work with him--checking out the literature. I wish Hannah were able to come here for a while as she planned--but I guess she is not able to leave her mother.

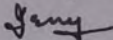
We hear that the South is getting some bad treatment from our northern climate. We are having quite a blast--not too much snow but such a long drawn out cold--zero and below most of the time. Makes automobile operation quite a hazard. I may be down to New Orleans next month to sample the weather. If I do I shall give you a phone call.

We are still looking for Gerloff's work on Cosmarium--Cramer keeps advertising it. Now states that it will be out in a couple of months (that he expects it to be out). I hope it does appear before we have to consolidate our Cosmarium species and write descriptions--because Kriger may offer some suggestions and some new combinations that we will wish to consider.

Tess is feeling pretty well--but does not get out much. I have been unable to get her to participate more in the writing clubs and groups with which she used to be associated and so active.

Is Alice still with you? I dare say she is. Is the woman still there (I have forgotten her ~~name~~) who inked the drawings? She did such a splendid job. It might be that we should call on her to do some of the drawings for the N. A. survey. At present I have a good helper who is skillful at inking--but he may be able to work on these drawings when we need help.

I think of you so often and wonder how you are getting along and whether there is anything at all that I could do at this great distance. Let us know how you are. With kind regards from us both--



G. W. Prescott

Jan 29 1962

Dear Jerry,

On your Christmas card you wrote that you expected to be down here in about a month, which I took to mean the latter part of January. So about Jan 15 I phoned Dr. Cagle's office and asked his secretary if a definite date had been set for the Editors' Conference. She went away to check, and returned saying that it was scheduled for Jan 22-23, or so I thought. On Jan 23rd I phoned her again to enquire if you were here, and then she said the date was February 22-23, not January: I probably misunderstood her the first time. When you come I hope you can arrange to spend a day with Edith and me, or at least come up for dinner and spend the evening.

Though I have recovered physically, more or less, from the serious illness of last summer, my health is far from good and there is no prospect of it getting much better. Even small exertions leave me short of breath and with my heart pounding, and this is exactly what is bad for me. Insomnia is bothering me lately; can't get to sleep before 2 or 3 or 4 a.m., even with the help of sleeping pills. My memory is getting bad, and cataracts are slowly forming in both eyes. Last year, when I applied for a renewal of my auto driver's license, which formerly was a mere formality, they sprang a new requirement - a visual test - which I failed, so now I am allowed to drive only during daylight hours. This is not much of a hardship, for we very seldom go out at night.

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Hentally I am in the same state of apathy that I have mentioned before, perhaps more so, with no ambition or desire nor energy to do anything except eat, sleep and read, and what I read today is forgotten by tomorrow unless it is something of more than ordinary interest.

Edith is fairly well. I am thankful to say. She has some ailments of course but they have been quiescent for several months, and though not strong she is able to do a little of the housework. Alice is still with us, but she also is getting old and is suffering from arthritis. Mrs. Dorothy Ferine who has inked so many of my drawings is at present staying with her Mother, just around the corner from us, but her husband has been transferred to Houston, and she and the children will go there to live about the end of March. Whether she will be able to do any more inking work is problematical, for she will have to make a new home in Houston, in either a rented or purchased house, and she has two teen-age children and a little girl about 2 years old to keep her busy.

Cramer has been "expecting" to publish Gerloff & Krieger's work on Cosmarium for nearly three years. I imagine he may be having financial troubles for he was not able to get any financial help from the Government for "Nova Hedwigia". I cancelled my subscription to the journal after two years and I expect that many other individuals did the same. In attempting to cover the entire field of cryptogamic botany the journal is suitable only for the libraries of large institutions, where specialists in the many different subjects can use it.

Three weeks ago we had a horrible cold spell, with a low temperature of 12.5° in the City and 10° in the suburbs and surrounding towns, the lowest recorded here since 1899. Further, the temperature remained below freezing for three days and three nights, something never before recorded here since the Weather Bureau was established about 1880. The combination of extreme cold and long duration has resulted in tremendous damage to property from burst water pipes, to commercial crops

fruit and vegetables, and to all the tropical and subtropical plants and trees. I think that every palm tree in the City must have been killed: in City Park alone the Superintendent reports the loss of more than 300 large Washingtonia palms, to say nothing of the other kinds. Even the evergreen camphor trees have dropped their leaves, though I believe I see some new buds just appearing on the two in front of our house, no doubt helped by the 75 to 80° that we had for five days last week. We had no damage to pipes in our house; they are all inside. Nearly everything in the garden is killed, but we don't care much for there was nothing valuable. Neither of us is able to care for the plants, and the only attention they get is from a gardener who comes once a month.

The 3400 sp. and var. of desmids that you mentioned in your report to the NSF seems surprisingly large. I never counted the number in my own collections and drawings, but guessed that there might be about 1000, and I would have thought there might be another 1500 in the rest of N. America, or say about 2500 all told.

Glad to hear that your Great Lakes book is coming out in a 2nd edition (or 2nd printing?). Evidently there is a considerable demand for it, and I certainly hope that Cranbrooke offers you a much better deal than with the 1st edition, which I thought at the time was paltry.

I wrote to Grönblad a couple of weeks ago and have just had a reply. He is in good health, and has several desmid papers in hand, some ready for press, others in the making. He informed me that Dr. Hans Luther, of the University of Helsingfors (Helsinki), and his wife have just left for Madison Wis., where he will be a visiting professor for six months. Dr. Luther and his beautiful wife took Grönblad and me for a day's trip in his motor cruiser among the Skerries, an archipelago of small islands off the southern coast of Finland, an unforgettable experience. His specialty is some of the aquatic Spermatophyta, and some fresh and brackish water algae, but not desmids. Perhaps you may get an opportunity of meeting them: they are a charming couple.

Edith and I are happy to know that you and Tess are both well, and we send you our best wishes.

Sincerely,

I will write to Hannah in a few days.

Sunday

Dear Arthur and Edith;

Here it is Sunday again and a whole week since I left the sunny south, good old New Orleans, and you. I am still thanking you for being so good to me and for putting up with me in my poor condition. I feel so embarrassed to have been so stupid and so below par --but even so [^] did enjoy visiting with you and in indulging in Alice's good things to eat. It was a real treat. All I can say is that New Orleans has some very potent viruses. I finally had to call the house physician at the Jung and got a little help Saturday night--the night which I wanted so much to spend with you. Apparently I developed a good case of pluri~~sy~~sy. He gave me some shots and some codine so I was able to get some sleep and I made it OK to the train the next morning--found a connection for Jackson, Michigan--arriving there at 5:00 S. M. and finished the tip to Lansing in a miserable bus- but glad to get back where I could relax.

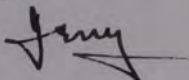
We are just gritting our teeth and bracing ourselves for another month of winter. It was so very disheartening to see the flowers, the green leaves and the grass grow fainter and fainter as we came north--laning in the Chicago area in a terrific snow storm--and it has been just that way ever since I arrived back. Yesterday did not improve my disposition or health any for this was the day that we had decided on long ago for a preliminary investigation of a lake over near Lake Michigan which we have undertaken to study and to 'cure' for a land owners' association. If several people had not been involved we would have called it off--but we went through with it. The wind was howling and it was slithering snow and sleet. We could not get the cold boat motor started after fussing around for an hour in the bitter wind- and so had to go about the lake from point to point in the car, making such an examination as we could from shore. Result is that my sinuses are about a mile wide and just as high.

Tess was very pleased with the jewelry set and she will be writing to you. I am looking forward to the time when she can get down to New Orleans and can go snopping around some of those interesting shops. I did not see very much Saturday morning because I did not feel like walking far- but I did get to Pirates Alley where there was an interesting art exhibit.

Arthur, I shall write you this week as soon as I get a little more squared around. There was such a mass of AMS business accumulated that I have not yet gotten things straightened around. Have not yet heard from Hannah so I am afraid things are bad for her at home. It is not like her to not follow through on such things as returning galley.

Best regards to you and thanks again for your hospitality.

Cordially,



Friday

Dear Arthur:

Received your letter this morning just as I was going to the P. O. to mail the Ms. to you. Since Hannah returned it here, I re-assembled the material and have given it one (only one) proofing. I thought I should help out a little on the preparation of the Ms. and hope that the form meets with your satisfaction. I started to arrange the species and varieties alphabetically, but lost out on it in a place or two. Maybe that is not important with such a small group of plants as are listed in the paper. I did not know whether you ~~were~~ were going to enter a text figure for the additional form, but indicated it as such in the text. This can be changed of course if you plan to enter it on the plate as another figure.

I shall try to get off to you in the next day or so my copy of a style manual which may be of help to you. I shall not be using this for the next few months (although maybe I should) so you can keep it for a while, if you wish.

Sorry to be in a rush--but I just am this afternoon, so will not write more at this time.

Best regards to you till later-

J. Gray

MICHIGAN STATE COLLEGE
EAST LANSING

DEPARTMENT OF BOTANY AND
PLANT PATHOLOGY

Tuesday

Dear Arthur:

I hasten to apologize profisely for neglecting to follow through on your request for sheets of *E. turgidum*. I am getting very to be very remis in such matters--just too many diversions in the day from one set of chores to another. Sorry. I shall be interested in having your latest idea concerning *E. turgidum* and *E. Moebius*. I have given it a little thought. Wish I could see the two plants under a 'scope, side by side (if there are really two plants). Must get to class so cannot write a letter at this time. Thanks for your letter and thank you for that huge roll of very beautiful plates. These will be most useful when the time comes to prepare plates for the N.A. desmid summary. I must get names attached to these drawings right away. It is good of you to send these along for your future reference. Eventually they should go into the inconograph.

Take good care of yourself, please. Say HOW! to Edith.

Cordially-

Jany



"IT IS FOR US THE LIVING . . . TO BE DEDICATED
HERE TO THE UNFINISHED WORK . . ." LINCOLN

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Saturday
7

Dear Arthur:

Received your good letter just before I left home. Also a package of reprints of your beautiful *Stenostemum* paper. Something disturbed me but I did not have time to check. Sent this paper No. IV from Indonesia. I think the cover page read III.

I appreciate your criticisms of the sample sheets. I should have explained that these were set up only to give the NSF an idea as to what the appearance would be - and to give the printer a basis for making estimates. The loose-leaf idea was Hornak's suggestion - and since the cost would be within the range of possibilities for publication I thought we should pursue it. I don't know whether we could get \$25,000 for a printed book (or books). Of course I do not like the idea of a loose-leaf book that is going to tear apart right away. We have in mind - for consideration only - a binder that will not be so loose that tearing will be easy - and

one which still would permit inter-leafing.
We shall see what Hanned thinks now. After
April 15 I may know what, if anything, NSF
is going to do about further support. I have
another idea I am going to follow up if NSF
turns us down.

Am here doing some library work & finish
a taxonomic paper for Papenfuss. Been on the
fire for 2 years. Oh me! Silva res alienated
himself with some persons because of his
latest tirade on your and Grönblak's forthright
paper. How I envy the people here at the
Academy - such a gold mine of a library.

The only thing I couldn't find was Almanach
de Carlsbad with Cordae's names. It is a
little warmer here - but still winter. We are
so sick of winter - woult we have ever had.

Hope you are all well and enjoying the
spring. Best regards till later.

Gary
Wish I were going down Bourbon street now.