



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.

Jan 8 1960

Dear Rolf,

Well, the Christmas and New Year's holidays and festivities are over, thank the Lord. They no longer mean very much to my wife or to me, but there is always a lot of presents to buy, visits to make, and visitors to receive, with much unnecessary eating and drinking, so I am glad when it comes to an end.

The foot infection that I mentioned in my last letter proved rather difficult to heal. In addition to the primary infection by a fungus, my doctor said there was a second dry infection caused probably by a bacterium of some kind. This had a curious and unpleasant side effect that caused all of the skin on all of my toes and the soles of my feet and the fingers and palms of both hands to peel off, though only my right foot was infected. I had a similar experience some years ago, when the doctor gave me two injections of penicillin in treating a virus infection of the respiratory tract.

Otherwise I am in fairly good health, but I seem to be getting more and more lethargic, or perhaps lazier would be a better word. No longer do I seem to have enough energy or ambition to do anything except eat, sleep, and read. I have done nothing on desmids since our return from California, except to write several long letters in an effort to find another journal that will publish the big paper on Indonesian desmids, so far without any trace of success. However, I know that I must do something, and after I clean up my arrears of correspondence I will make a special effort to finish the Brazilian desmids, and then send you my drawings identified as far as I can go.

sublobatiforme
Hannsh wrote me a month or so ago, calling attention to a curious duplication of names in the instance of *Cosmarium sublobatiforme*. This name was first published in Prescott & Scott 1942, p. 14, Pl. 2, Figs. 17, 18, and it has been used again in our Sudan paper, p. 33, Figs. 147, 150, for a quite different plant. So a correction will have to be made. Can you think of a suitable name for the Sudan plant?

Herr Franz Eckert, of Ingolstadt, West Germany, tells me that he has sent you three slides, one containing a specimen of *Aescottia mira*, another with 25 Brazilian desmids, and a third with 18 from the Sudan. I think they are remarkable examples of skill and patience and delicacy of touch. He says they are all mounted by hand, and that he does not use a mechanical finger nor a micro-manipulator, such as are used for mounting diatoms.

Here are replies to some of the subjects in your letter of 7.2.59: No doubt you have seen in Taxon that Silva's proposal was rejected by the Montreal Congress and referred back to the Committee. Personally I do not feel inclined to push the matter any further, and I intend to cite pre-Ralfs epithets and authors in the same way that we have always done. Let someone else squabble about them!

I have not received the paper by you and Ruzicka that you said you had sent. I did get Ruzicka's paper on *Tetmemorus*, in which he asked for criticisms, no matter how small. But I cannot read Czech, and his German summary is too brief to be of much help. I don't like the cumbersome method of citation that he has used, and which evidently is required if you want to adhere strictly to the Code requirements. It simply means more ~~extra~~ work and more chances for error on the part of the author, the editor, the printer, the proof-reader, and the student who used the paper, and does not help in any way to clarify the subject, only to make it more complicated.

He mentions *T. brebissonii* var. *tenuissimus* Moeb., though I feel sure it has not been found in Europe, and in the following sentence there is a Czech word that evidently means "teratological". I don't know if this refers to var. *tenuissimus*; if it does it is wrong, for I have found var. *tenuissimus* from both North Australia and from Indonesia, though only a single specimen in each case. Both of them correspond well fairly with Moebius' illustration.

I should like very much to see your sample from Sierra Leone, and anything else that you may get from Africa; there are undoubtedly many more new and strange desmids to be found there.

I am afraid that Verleger J. Cramer is going to have difficulty in finding somebody to complete Krieger's monograph. All I know about Skuja is what you and Teiling have told me; the desmids in his Burmese paper are well done, though I don't like his style of drawing them. The only man in this country who is competent to do it is Prescott, but in all the 20 years that I have known him he has been continually on the run, trying to catch up with his work, and never seems to overtake it. Yet every year he goes to several conventions and meetings of various kinds, and in alternate years he manages a trip to Mexico, or Ecuador, or Alaska. I have often wondered who takes care of his classes at the University while he is absent on these trips. Just now he is working on the "Desmids of N. America" project, for which he has a grant from the National Science Foundation, and has engaged an artist who is now copying desmid drawings from many different authors. My next job, after I finish with the Brazilian material, will be to collate my unpublished drawings of known desmids from S.E. USA, and send them to him so that he can incorporate them in the book. So I don't see how he could possibly undertake the huge task of completing Krieger's work. I can easily understand your reasons for declining, but I wish you were younger and in better health, for you are undoubtedly the best man in the whole world to do it.

Do you have the book "International Directory of Specialists in Plant Taxonomy", published by the International Bureau for Plant Taxonomy? On page 131 Herr J. Gerloff of Berlin lists himself as a specialist on *Cosmarium* and *Staurastrum* (nothing else). I wonder how he can be a specialist on only these two genera.

This morning I had a postcard from Kurt Förster of Allgäu, W. Germany, in which he said that he has been working on the desmids in the Brazilian material collected by Dr. von Lützelburg, and that he will send me his drawings "soon after Christmas"; I had offered to help him with the identifications. From Franz Eckert I have some further information concerning this material; it was collected by Lützelburg in the periods 1912-13 and 1925-26, so it is high time that something is published on it.

From Miss Lisa Borge I received a few days ago a reprint of her father's last paper, *Beitr. z. Algenfl. v. Schweden* 6 (1939), which she said was sent at your request. Many thanks! She also enclosed a small reproduction of a portrait of her father, painted by Bo Beskow. This I think is not quite so good as a larger photo of O. Borge that Teiling sent me some years ago, and which I have had framed. He was a great desmidologist, and I have a very high regard for all of his determinations.

Our weather has been rather mild so far this winter. On three occasions the temperature has dropped to 1 or 2 degrees above the freezing point, but just two days before Christmas it went up to 79°F (26°C), almost a record for that date. The poinsettias are in full bloom, with their brilliant scarlet circle of leaves just below the insignificant flower-head, and even one of the badly neglected rose-bushes in our garden has several white roses on it. I suppose you are snowed in by this time. I would not like to have to live in Lat. 60° N; I think I would just shrivel up and die!

Best wishes for the New Year from my wife and myself.

Sincerely,

Karis 23.1.-1960.

Dear Arthur,

I am glad to hear that you are in fairly good health and I hope that your foot infection will be better very soon. Quite as you describe your feeling of laziness, in the same manner I myself am feeling. As you have been trying to find a publisher for your large Indonesian paper, so have I been disappointed with the printing of my Italian desmids. At first it should have been printed by the Soc.Sci.Fenn., but they had a rest of papers communicated to the Society earlier than my paper and they have no money to print them all, so my paper was put aside. Then it was transferred to Soc. Fauna et Flora, Fenn. But there I had no better luck. And so at last, with the help of my friend Hans Luther, it was returned to Soc.Sci., Comment. Biol. - and now it will be printed without delay (or I suppose so!) Do you know the German paper "Nova Hedwigia"? There they are willing to print even larger papers (in all languages).

Cosm. sublobatiforme Gr.&Sc. in our Sudan paper could be named "Cosm. quadratuliiforme" (?) or have you anything better? This name is not in Nordstedt's Index + Suppl., but perhaps Hannah and/or Prescott should be consulted too? I have no complete list of names, which I now feel as being an important disadvantage. In my younger days it was not so much so, because not so much had been published on desmids since 1908, so I was able to have a control of the new names, sometimes with the help of my friend O. Borge. - As you may have noticed Mr Bourrelly has anticipated some of our names in his Sudan paper. His paper has priority and so several of our names have to be altered. Unfortunately! This could have been avoided, had not Bourrelly been so very selfish and mysterious about his paper. We did meet, indeed, at the Limnological Congress in Helsingfors, but Mr Bourrelly did not condescend to speak to me although Teiling introduced us to each other saying that we had mutual African interests. It will be a tiresome job to make the appropriate corrections in our list of names (and a very dull job too!)

I got 3 slides from Mr Eckert and I have written to him sending my best approval of his skilful work. They are, indeed, wonderful but I should not like to make such slides myself. And I do not know if those slides are really "everlasting" or lasting for 50 years or 100 years? I believe you have seen my slides made by Homfeld (also in gel.glycerine) made about 30 years ago: they are already much compressed so that the specimens are more or less deformed.

I quite agree with you in thinking the quagmire of codeology almost unintelligible and unpenetrable to noncodeologists! Today, just when I was writing this letter, I got a letter from Silva. He seems to be almost certain that his views are correct. And he has written something that will be

published in "Taxon". "Against Grönblad and Scott and Komarek & Co." I am glad to have Silva's word that he is not offended on account of our action. He is no Teiling! And that is OK. We should be friends even if we disagree in our opinions. I think I am not going to waste time and energy upon these hopeless questions. I toomay have a few years left for studies of desmids, and it seems to me more sensible and more interesting to continue with those studies in the same way as earlier. (Perhaps you wish to see Silva's letter?)

I have quite neglected sending the Grönbl.-Ruz.-paper to foreign friends and correspondents. I sent 10 copies to Bruhnel prior to the Montreal Congress and I do not know to whom he has given them. (I thought you /would have been one of these). You will certainly have a copy.

Ruzicka seems to me too quick to make conclusions of his own, especially when "teratological" variations are concerned. The unfortunate example of *Micrasterias ceratophora* in Krieger's *Desm. Flora* should be a lesson. Also our *Micr. incredibilis* is by Mme Gauthier-Lièvre (in litt.) said to be a teratological variation of her *Allorgeia valiae* G.-L., but most probably our species, though most certainly being a variation of the same species, is by no means a teratological variation: we have examined more than 50-60 specimens and every one of them was built quite similarly (with small variations indeed). A teratological formation never is so constant but almost every individual is different. (Of Ducellier's *Euastrum* variations). /This is also the opinion of Kallio, who knows very much of variations in desmids).

I think the "cumbersome method" used by Růžička only is necessary when codeological problems are discussed. Certainly *Tetm. brebissonii* v. *tenuissimus* is not teratological. - Quite recently we have been discussing some species of *Pleurotaenium* but it seems to me that we are with Rz. of very different opinion as to the identity of certain species /e.g. *Pl. nodulosum* and *Pl. crenulatum*. Krieger has a drawing pl. 49: 1 called "*P. coronatum* v. *nodulosum* f. *constrictum*" (in Krieger -cta) which Rz. says is teratological. I do not believe so! (Krieger has no text corresponding to this figure).

About the continuation of Krieger's *Desm. Flora* I have written to Skuja who does not wish to undertake this work. I have also proposed Prescott but perhaps Gerloff is the man to finish this work.? And there will be immensely of work. Among the Germans there are such people who have a lot of energy and who are able to concentrate upon one subject. They are not afraid of undertaking a most worrying and cumbersome work (with the whole I volume "Foreword and Introduction"). When Krieger began his *Desm. Flora* he was almost unknown to Dr Borge and to me too.

Lisa Borge is "Mrs."- her name as wedded was Frisendahl, but when divorced she again took her own name Borge.

Rolf Grönblad

(2)

Karis
Centralgatan 80

Our weather is anything but mild. At this moment we have -20°C . I wish I were by you in New Orleans. When by means of "tipping" (betting) win a few millions I certainly will come! Usually during very cold weather there is no wind but sometimes there is more than one can possibly stand. Then I am staying in my warm rooms and do not stick my nose out oors for several days. The days are already noticeably longer and the sun is shining very brightly for a few hours. I am eagerly waiting for a warm, a hot summer!

My health has not got worse, perhaps a little better, and I have not always such bad difficulties in walking. But everything is hanging on a hair. Every day I am eating a fistful of different pills.

I am going to send you material from Sierra Leone. I have got no more material although I have asked a Finnish geologist who is working in S.L. to send me some more. -I got one sample from Lake Gennezareth in Palestine but I found only one small *Cosmarium* sp.

Thank you very much for your generosity in giving me again the Geographical Magazine. I have had plenty of pleasure in looking at the fine pictures and in reading a lot of most interesting articles.

Can I send you something from Finland? (Tell me only)!

I wish you and your wife good health because that is the most important thing in the world.

Yours,

22.1 -60

Today I received 2 Amer. Scientific and 2 "Arizona Highways" - beautiful flowers and almost incredible sceneries.

Certainly the trip was worth wile.

I am enclosing a copy of a drawing from a desmid which is found in Finland. Can you guess what it may be? Later on

I am going to tell you.

24.1.-60

Today I received my copy of "Taxon" with the expected article by Silva. I have only once read it and I cannot say that I am much wiser. "Gblad & Scott, is largely a collection of specious and sophomoric arguments" (!!!). -But you must read Silva's article and tell me what you think about it. *What does Prescott say? Which is the aim of Silva's activity?*

Today we have $+3^{\circ}\text{C}$!

The "beautiful Code"?

Karis 25.3.-60

Dear Arthur,

Thank you for your long and interesting letter, for the diamondblue and two small bottles with desmids. (Those dwarf bottles are very nice and handy). I had a look at your Spirotaenia which in my opinion certainly is *Sp. condensata* /cf. *f. gracilis* Kossinskaja (Flora Crypt. pl. IV fig. 11-12)/. It is coated by a mucilaginous layer which appears to have a hairlike structure. /cf. Krieger Desm. Fl. p. 19 fih. H, and Hauptfleisch, Zell membran und Hüllgallerte (1888) Taf. III Fig 64-65; Kossinskaja, Fl. Crypt. pl. IV f. 1/. I have seen occasionally similar cells of *Sp. condensata*, *Sp. obscura* and also other saccoderm desmids embedded in a mucilaginous coat (*Mesotaenium*, *Cylindrocystis crassa* cf. Grönblad, Subaerial Desmids I-II). Consequently I am inclined to that these algae do have pores but very fine ones, only visible - perhaps - in an elektrone microscope. I have once asked Thomasson to inquire into this question. Perhaps you could ask someone who has an elektrone microscope at his disposal to study the membrane structure of several saccoderms? It would really be worth while.

I have not the 1958 paper by Woodhead and Tweed but I have sent my last papers with a letter asking Mr. Woodhead to send me this paper. I wrote too that I have some Sierra Leone material and asking how his publication is going on. (It would be better for writers to communicate and not to do as Mr. Bourelly who kept his African paper as a deep secret /which I cannot quite forgive him/).

Kallio's curious desmid is: - ... an "aradiate" mutation of *Micrasterias americana*!!! This is, as you remember "uniradiate": and when also the other side lobes are manipulated away, then you have an aradiate cell with only polar lobes remaining: Kallio tells me it is quite stabile and constant so that he does not believe that it will mutate back to uniradiate or biradiate. Wonderful magic!

I did not notice that *Micr. urniformis* W. & W. had priority to *Xanth. raciborskii* Gutw. I certainly do not think it belongs to *Micrasterias* but without difficulties it can be made a *Xanthidium*, so I think it must be called *Xanth. urniformis* (W. & W.) Scott.

I also believe *Fleur. coronatum* v. *nodulosum* f. *constrictum* to be quite a normal desmid. I think there must be given a diagnosis to legitimize the name. It is not uncommon in Finland and Sweden (cf. Lundell 1928!)

I too noticed a lot of mistakes in Krieger's Desm. Fl. and I wrote to Krieger about them (but he was not pleased!).

I do not like Okada's "new classification", on the contrary I think it most confusing. A good system should certainly not be founded upon only

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one character: the formation of zygo-spores. Lütkenüller made it quite clear that *Roya* is a saccoderm desmid. I cannot see any progress in a system that does not make any difference between saccoderm and placoderm. The structure of the cell wall is in my opinion of fundamental importance.

Systematics: I believe *Cylindrocystis* must be made a "nomen conservandum" against *Cylindrospora*. There must, I believe be a proposal to the next Botanical Congress or else Messrs Daily & Co + Silva will have *Cylindrocystis* rejected!?

Euastridium is, as far as I can see, not very distant from *Staurastrum*: *Staur. polonicum* Račib. seems to be = *Euastridium*? However I am not insisting upon this question, and if you wish to have *Euastridium* as a separate genus: OK. (Gröblad Bot. Not. 1938 has a desmid that was identified as *Staur. polonicum* Rač. - but perhaps it is different from Račib.'s plant?)

Teilung, Bourrelly, Thomasson, Croasdale, Brook and Teilung's Swedish pupils have accepted *Actinotaenium*. Even Ružicka seems inclined to do so. I am not certain what to do: the group of these *Cosmaria* seems rather well defined.

Cosmarium oblongum and *C. asymmetricum* are good *Cosmaria*.

Spinocosmarium is in my eyes of the same type as *Staur. maamense* + var. *atypicum* and *St. forficulatum* (typical specimens + some Finnish varieties). Of course *Xanthidium* would be possible to accept. But perhaps it must stand as a separate genus to avoid new synonyms.

Staurodesmus is accepted by all the Teilung-gang. But it is from its first beginning to this day so confused and has never been well defined, so I am most unwilling to accept it. There are many species (*Arthr. incus* &c. which are decidedly biradiate and not more often triradiate than e.g. *Micrasterias* and *Euastrum*. But this is one of Teilung's "weak points".

I am willing to accept *Allorgeia* (but there is a *Micrasterias muricata* having processes (a vertice/ in three different planes).

Amscottia and *Onychonema* are OK

As to *Groenbladia* I have always been a little suspicious. However, the spores are peculiar, not like *Hyalotheca*, and the "parthenospores" which perhaps are real zygo-spores formed by lateral conjugation between two adjacent cells are not recorded in many other desmids. The type of klorophores may not be of any special importance. The genus has not been generally accepted. Hesitate what to do?

I do not know *Triploceras spinulosum* Kiselev 1930. (Could you give me name of paper and periodical? Is it "Periodicity of the Nau Pond Plankton 1930" which is in Krieger's List of Literature p. 139? Or is it 1931 Trudy S. Asiat. Gos. Nauch. Tsentr?

Rolf Grönblad

Karis

Centralgatan 86

28.3.-60

Dear Arthur,

Today I got 3 reprints from Woodhead and Tweed:
A consideration..... (1956), A check list(1958), and Freshwater
Algae from Sierra Leone (1958).

This last one is a very bad and poorthing. Very bad drawings from
which you cannot identify anything at all. Moreover the authors have
without any critic accepte the ver y poor drawings and false identific-
ations by vanOye (who ought not to write on desmids!)

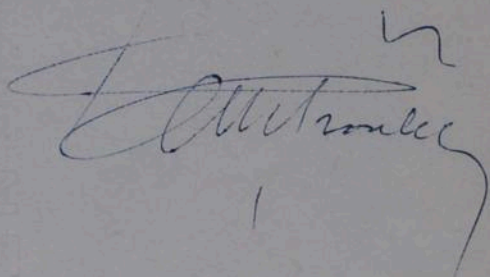
I had ~~xxxx~~ almost a shock by seeing that such things are publish
ed. In my opinion it is scandalous.

But there is a difficulty as far as what to do, what to write
with ut giving bad offence? Have you got this last paper, Frw. alg. S.L.?
The worst thing is that apparently there are to come many following pub-
lications of the same low level. If they shoud only have so much sense
as to have someone else to make the drawings from microscope!

I really feel quite unhappy when I am looking at this very very
poor paper (of which much could have been done!)

I shall do nothing till I have got your answer.

Greetings,

A handwritten signature in dark ink, appearing to read 'Rolf Grönblad', with a large, sweeping flourish extending downwards and to the right. There is a small mark above the signature that looks like a stylized 'u' or 'h'.

Dear Arthur,

Thank you for your two letters and the *Micr. truncata* copy. Under separate cover I am returning your copy which I have photocopied for myself and for Kallio. (Do you know the address of this fellow Rozeira?) The various cell of *M. truncata* are very interesting "modifications" and I hope Kallio will be interested to have the copies.

I have written to JWGLund asking him to tell Messrs Woodhead and Tweed how completely incompetent they are to make an exact drawing of a desmid cell. Thus it would be advisable to have another man who may be able to do it better. I think Dr Lund has authority enough to write something suitable.

In Svenska Dagbladet I read that Teuling has sold his library and his collections of desmid drawings to the University of Uppsala (the notice enclosed). But I suppose he has kept the right to use his collections for his lifetime? I do not know, because he does not answer to my letters any more. Quite recently I have - on the request of Hannah - written to Teuling proposing that we should be friends again, especially as I cannot see anything in my letters or in my publications which would have been offending to him. Indeed, I do not agree with some of his ideas, and this I have said in quite a friendly way. So I think our friendship is to be given up. -after 40 years! From Mrs Lisa Borge I have heard that Tg's wife has died.

By air mail I sent you one of the Sierra Leone vials containing a *Pleurotaenium* (*caldense* var.?) If you look at the subapical part perhaps you can see very delicate longitudinal foldlike striations (only in empty cells).

Have you noticed that Teiling has published a *Staurastrum planctonicum* v. *bullatum* - v. *bullosum* (one name in the description - another in the explanation of plates). Now Brook has a third spelling of this name: "*S. planctonicum* var. *bulbosum*". Which is correct? I asked Teiling - but no answer! Brook's papers have very good drawings but instead of *Staur. gracile* and *S. paradoxum* he has made everything to varieties of *S. anatinum*! I cannot see that this is a much better situation?

What do you make of the Australian "*Spirotaenia*".? I am sending you some figures (merely sketches) from the material you sent me. Perhaps there is something that has escaped you? Then I am sending all my Sierra Leone drawings by registered mail.

With best greetings,

June 4th, The Hospital at Skewis

Dear Mother

I have sent you some
of my drawings from Susan
Lemon and I hope you have
got them already. I got
your letter on Plum address
and I had a long letter
ready written - but then it
happened, all at a sudden,
I was taken very ill and
was by ambulance car carried
to Skewis, the nearest
place where good and safe
treatment could be obtained
And here I am already much

muscle matter in deed, but
unfortunatly I have to remain
here at least for 2-3 weeks.

I cannot quite explain
what did happen, but I think
there was not much living in me.

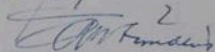
Now I am allowed of getting up
every day reading and writing

(This is my first letter!)

I am enclosing a letter I got from
Frankland. I think it best to ignore
to reject the papers by Woodhead & Tweed?

I am very curious to know what
you have arrived at by your meeting
in Philadelphia.

Sincerely

 2

Västra Nyland's Spåthaus
address: ~~Skansen, Stockholm~~
Ulmäs Ekenäs

June 6th, 1860.

26.vii.1960.

Dear Arthur,

Again I have to beg you to excuse the very long delay in writing an answer to your last letters. I too have been quite lethargic, I have done almost no desmid work at all. But I ~~XXX~~ still feel tired after my illness and I think it is almost necessary to have a good rest before I begin with my dentistry again.

It would be rather interesting to see Telling's letter to you. Of course I shall not tell anything about it. From Hannah's letters I can see that you and Prescott are not inclined to accept *Staurodesmus* and *Actinotaenium*, whereas Hannah probably will accept them, in fact she has already accepted *Staurodesmus* in her papers. I am still quite undecided about this question. But if you and Prescott and Hannah think it best to accept, then I too am going to follow you. (But still I cannot quite see what is gained by this change - and of course Telling will have to revise his *Staurodesmus* and to work out a complete synopsis. It is a condition sine qua non!

What do you think of your *Spirotaenis* with "hairs"?

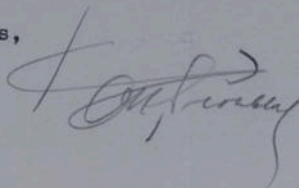
I am glad to know that your "magnum opus" at last will be printed.

The Woodhead and Tweed paper is perhaps best neglected. I do not wish to write any more to anyone. Perhaps you are willing?

I have got a small collection of desmids from Brit. SW Africa by a Finnish doctor who is there doing missionary work. Later on he has promised to send more. The only desmids of some interest were *Euastrum divergens* v. *rhodesiae*, *Eu. platycerum* v. (*obtusius*), *Eu. spinulosum* ("f. *rotundatum*"), *Eu. truncatiforme*, *Micr. zeylanica*, *Cosmar. subauriculatum*, *Cosm. sp. nov.*? (only one cell seen). Not very rich, as you see.

All my correspondence since I got ill, i.e. from the end of May to this date has been neglected. Now I have a troublesome work to write answers to everyone! So I shall finish this letter now, and send you my best wishes.

Yours,



Aug 7 1960

Dear Rolf,

It is good to have your letter of July 26 and to know that you are recovering satisfactorily, even though slowly. I have wondered whether you are able to climb the stairs to your bedroom and study; after my "heart failure" three years ago my doctor would not allow me to go downstairs for several weeks, and then he made me promise to pause on each step for 10 seconds before proceeding to the next one.

At the Philadelphia meeting between Prescott, Hannah and myself, we discussed the desmid genera that are to be recognized in the "North American Desmid-Flora", and both Prescott and Hannah voted to recognize Actinotaenium, but to exclude Staurodesmus until it is seen what Telling does with it in the revision that he is now preparing. Prescott has already used Actinotaenium in his Brazilian "Nachria" paper (much to my surprise), and since I was out-voted I had to agree; so I shall use Act. in my future papers, and I think you might as well do so also. I have never thought that Act. was "wrong"; I simply did not see much advantage in splitting off this rather small group from Cosmarium unless he had the intention of dividing all the other Cosmarium species into groups also. In the Indonesian paper, which is now in the printer's hands, there are 4 or 5 species of Cosmarium which ought to go in Actinotaenium, but it would have caused too much trouble and delay to change them, so they are listed in Cosmarium.

As to Staurodesmus, Telling sent me a typewritten slip reading thus: "The nomenclature in this paper is abandoned by the author. Instead of subspecies the author has proposed the term facies, abbreviated fac. plus epitheton as a suffix of the species name. See further my paper "Radiation of Desmids", its origin and its consequences as regards taxonomy and nomenclature", Bot. Not. 1950".

This wording is not too clear to me, but I think the entire Staurodesmus paper must be disregarded until T. gives the new nomenclature in detail.

I have sent your and my drawings of the Sierra Leone desmids by registered airmail, so you should get them about the same time as this letter. The S. Australian and Tasmanian drawings will follow later, with tentative identifications. It is hardly surprising that the sample from British S.W. Africa contained few desmids; from the arid climate I expect that suitable habitats are extremely ~~few~~ scarce. Recently I had a letter from a Dr. David H. Eccles, Joint Fisheries Research Organization, P.O.Box 10, Mkata Bay, Nyassaland, asking for reprints of my papers, and saying that he will send you some material from his locality. So I sent a batch of reprints, and gave him the names and addresses of other authors from whom he could get other papers. Also I gave him some hints on the best way of finding favorable desmid habitats and how to collect and preserve them, because this knowledge is not possessed by many phycologists, let alone ichthyologists.

The papers by Woodhead and Tweed, and by Rossira have been returned to you by ordinary mail; I have obtained a copy of W&T from the publishing firm of Dr. W. Junk in The Hague, Nederland, and I think, as you do, that it is best to ignore all of their determinations. On the stationery of Hydrobiologia, and on the cover of the journal itself, there is a list of names of prominent biologists who form an editorial board. Among them is Dr. H. Järnefelt of Helsingfors, whom you probably know, and Dr. Wm. Randolph Taylor whom I have met twice in person and have corresponded occasionally. When the Universities reopen in September I will write Taylor and tell him about the Woodhead & Tweed paper, and ask whether he feels like writing Prof. van Oye about it. But it is questionable if he will do so!

Prescott ^{wrote} me in March about Silva's reply to our paper in Taxon, as follows

"I noted the tirade by Silva in Taxon, and was sorry to see it. He seems to be in a retaliatory mood." For a man 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 Grönblad. There will always be differences of opinion; and different interpretations of rules".

In another and later letter, which has been mislaid, Prescott wrote that Silva had "alienated" (= offended) some persons (names not given) by his attack on our paper with its "specious and sophomoric arguments".

At Philadelphia I asked Prescott what he was going to do in future about the Halls 1948 starting point, and he replied that he would pay no attention to Silva's paper, but would continue in the same way that he and I and you and Krieger have always done. So let us forget about Silva.

I have read the paper "Zur Systematik der Desmidiaceen" by you and Ruzicka several times, but am sorry to say that my knowledge of German is not good enough to enable me to follow your arguments in detail. To do so I would have to translate each sentence into English and write it out. Your English summary is too brief to be of much help. But there is one sentence that you have emphasized: "Ungerer Ansicht nach können nur ständige, auch auf die Nachkommenschaft übertragbare, erblich fixierte Abänderungen als taxonomisch betrachtet werden", which I translate thus: "In our opinion, only those variations that are permanent, transmissible from generation to generation, and thus hereditarily fixed, can be treated as taxonomic entities". That is perfectly correct, but the fact remains that in a large majority of cases we do not know whether a given variation is hereditary or not. In certain instances, where a worker is lucky enough to find in the same collection a series of intergrading forms, such as those of *St. dispar*, *Cosm. difficile*, etc., which Ruzicka has so beautifully illustrated in your paper, it is quite evident that these variations are merely incidental and of no more importance than the many different shapes of the leaves on a single oak tree. Where a worker studies the desmid-flora of a single region over many years, like Telling in Sweden, you in Finland, Ruzicka in Czechoslovakia, or Messikommer in Switzerland, or Scott in SE USA, he is more likely to find such intergrading series than other workers like West & West or Borge, who had to deal with many small lots of material from many distant parts of the world. You and I know this from our own work. You had 3 vials from Lake Ambadi, 2 or 3 from Sierra Leone; I had 5 from Arnhem Land, 4 from Peru, etc., etc. In these small lots there is little or no chance of ascertaining whether a variation from the typical form is hereditary or not, yet we have to devise a name for each desmid that we publish. In such cases I think the use of the term forma is justified, either with or without an epithet following it; if an epithet is used the author's name should follow.

Summing up, I cannot say that I am convinced your proposed term "modificatio" will be of much practical help, save in a few exceptional cases. Some advanced workers may be able to use it properly, and if they are teachers they may be able to pass it on to their pupils, but for the average phycologist I believe it would only be an added complication to an already difficult subject. I should like to know if you have had opinions from other desmidologists about it.

In one of your letters you asked about *Tríp. spinulosum* Kisselev. This is described and illustrated in Krieger's Monograph, p. 449, Pl. 53:7. That was all I knew about it until Mme. Gauthier-Lievre's paper in the last issue of *Revue Algologique* on *Ichthyoceros* and *Triploceras* in Africa. She mentions that it is described in Kisselev's 1930 paper "Periodicity of the Nau Pond plankton", which I do not possess. Mme. G.-L. has a lot of nice drawings of *Tr. gracile* and *Tr. verticillatum*, but I think most of them should be referred to the second species rather than the first. Krieger does not give any records of *Tr. verticillatum* from Africa, so apparently here are the first records.

Aug 16 1960

A few days ago I received a single vial of material from Brisbane, Queensland, Australia, and by a curious coincidence this one sample contains a beautiful series of intergrading and dichotypical forms of *M. decedantata* and var. *intermedia* Schm., which was described from Queensland also. As I remarked in the first part of this letter, it is not often that such a series is encountered. It seems likely that the specimens illustrated in my Arnhem Land paper, Fig. 9, Nos. 2 and 3, described as *M. laticeps* var. *minor*, and var. *acuminata*, ought to have been referred to *M. decedantata*, but hindsight is always better than foresight!

The sample is a nice one, and contains a lot of other desmids, but rather curiously there is nothing that is distinctively Australian, and no other desmids of special interest, except perhaps *Cosm. panduriforme*, and *C. turgidum* var. *ligatum*. I am enclosing sketches, which you may keep, of the various forms of *M. decedantata*.

From J. Cramer, publisher of *Nova Hedwigia*, I have a letter saying that the first installment of *Die Gattung Cosmarium*, compiled by Gerloff from Dr. Krieger's papers, is at the typesetters, and that he hopes to publish it late this year, and that the other parts will follow at short intervals. Nobody has yet been selected to treat the other genera after *Cosmarium*. Dr. Ettl (do you know about him?) will undertake the editorship of the whole group Chlorophyceae, and will himself treat the Volvocales and Tetrasporales, and will select specialists from all over the world to handle the other groups. Prescott has not yet been asked about the desmids.

Hannah has given me the news of Telling's remarriage to a lady named Kerstin Fleijel, an old friend of his family. This is surprising indeed, but easily understandable in view of his statement that because of his stomach ulcer he requires six small meals a day, and that it would be impossible for him to obtain them in a restaurant. Both of my sisters in England married late in life, when they were over 50 years old, and in each case to a widower who needed a helpmate to take care of the home and children.

I thank you very much for the high compliment you paid me in writing that I am "the supreme drawer of desmids in the world", but I cannot quite agree. Perhaps I am the second best, but Ruzicka can see more of the obscure details in such desmids as *Cosm. undulatum* and *C. horvathianense* than I can, and draws them better than I could even if I could see them. My eyesight is not much worse, according to the ophthalmologist, but cataracts are slowly developing in both eyes, and I am having trouble in seeing the minute details of ornamentation of desmids, and in making my pencil trace the outlines seen through the camera lucida.

My wife and I are in fairly good health, but I am still lethargic and disinclined to work. The month of July was the hottest July we have had in 56 years, with temperatures of 35 to 37° C. almost every day, and practically no rain to relieve the heat. The first two weeks of August have been somewhat better, with daily thunderstorms and temperatures a few degrees lower. But we still have 7 or 8 weeks more heat to endure.

With my best regards and hopes that you will soon be quite well again,

Sincerely,

Referring to paper: Gronblad & Ruzicka 1959 "Zur Systematic der Desm...

Letter: Scott to Gronblad Aug. 7, 1960

...(quoting in translation) " In our opinion, only those variations that are permanent, transmissible from generation to generation, and thus hereditarily fixed can be treated as taxonomic entities". That is perfectly correct, but the fact remains that in a large majority of cases we do not know ~~if~~ whether a given variation is hereditary or not. In certain instances, where a worker is lucky enough to find in the same collection a series of intergrading forms, such as those of *St. dispar*, *Cosm. difficile*, etc., which Ruzicka has so beautifully illustrated in your paper, it is quite evident that these variations are merely incidental and of no more importance than the many different shapes of the leaves on a single oak tree. Where a worker studies the desmid-flora of a single region over many years, like Telling in Sweden, ^{you in} ~~up~~ ~~on~~ ~~from~~ ~~and~~ ~~Ruzicka~~ ~~on~~ ~~Czechoslovakia~~ ^{Messikomier} ~~pr~~ ~~ess~~ ~~in~~ ~~er~~ ~~on~~ ~~Switzer~~ ~~and~~ ~~pr~~ ~~Scott~~ in USA, he is more likely to find such intergrading series than other workers like West & West or Borge, who had to deal with many small lots of material from many distant parts of the world. You and I know this from our own work. You had 3 vials from Lake Ambadi, 2 or 3 from Sierra Leone; I had 5 from Arnhem Land, 4 from Peru, etc., etc., In these small lots there is little or no chance of ascertaining whether a variation from the typical form is hereditary or not, yet we have to devise a name for each desmid that we publish. In such cases I think the use of the term forma is justified, either with or without an epithet following it; if an epithet is used the author's name should follow."

The Hospital, Kansas

2879 - 60

Dear Arthur,

I have quite recently got two
issues of the Scientific American. Many thanks!
As you see I am again here at the Hospital
which is by no means a merry place. But it is to
be hoped that this visit will not be a long one.

Then I think I have to live in only the lower
storey for some time. And something I badly need is a real
knowledge of how to sleep - without pills and drugs!

It is a pity that there is so long a way between
Berkeley and New Orleans!

Best wishes to you and your wife

Sincerely,
S
Woolley

Okt. 20, 1960.

Dear Arthur,

Did I return Teiling's letter to you? I hope so.

I have your letter of Oct. 5 which certainly has got no answer from me. It is interesting to know that you too have somewhat similar difficulties with your sleeping, but I do not congratulate you because I know too well what it is like. I believe most older people, especially those with heart diseases have such troubles. I have read in a Danish book "Søvn uden Piller" about several means of getting out of sleeplessness. Also "Hypnosis" is suggested. I take no pills at all for helping me to sleep, especially no barbiturates. My sleep is presently rather poor, indeed, but I hope this will be better by and by. I take only some medicine for my heart, such as digitalis theoden, theophyllin and other heart drugs but no "hypnotica" nor "narcotica". A glass of ale before going to sleep has been recommended. Some methods of getting out of your thoughts, such as counting to ten, as trying to look at a beautiful well known place and trying to see which flowers there are growing are said to be helpful. If everything fails then I think I must try the only one doctor using hypnosis whom I know of in Finland (It is a dr Gedercreutz in Hamina. But I have been told that not every one is a good subject for such treatment. However, I shall wait and see).

I have during one year been using the modern "aairotor" drill which has a speed of 350 000 revolutions pr minute (not only 100 000). It is very helpful and requires no pressure at all, so the operator can stand quite relaxed which makes the work much more easy to the dentist. (My is an English machine "Sterling Borden Airotor", rather expensive!)

I have been living quite without alcohol and tobacco and I do not find it difficult.

It is somewhat cosolating to discuss such health problems with a friend who is in a similar position. I am mostly a pessimist and I have very little hope of getting altogether cured. Perhaps in time to come I will be able to work on dentistry (which is quite necessary for my finances) and perhaps a little on desmids. Presently I do almost nothing: I try to sleep, I take a walk I eat and read my newspapers and not much more. It is a deplorable condition and I hope there will appear some or other opening out of the darkness.

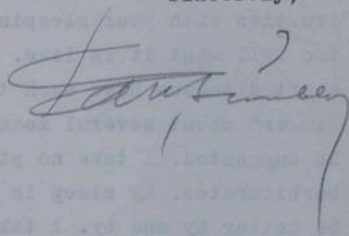
Also the days are short and dark and rather cool.

"Groenbladia aculeata" is a double or triple error!

Today I got from Kossinskaja the whole 1st part of her Desm. Flora of SSSR (printed 1960)

It is not quite identical to the earlier published parts. Kossinskaja has here accepted Actinotaenium and Groenbladia but so far not Staurodesmus. This volume contains the Introduction (a rather large part) and the beginning of the taxonomical part inclusively Euastrum and Micrasterias. (Not Cosmarium). Have you got this issue of 1960?

My best wishes to your wife and to yourself
sincerely,



Enclosed 2 plants in envelopes which you may keep.

24/x

Dear Arthur,

Would you let me hear your opinion about this desmid from SW-Africa. I cannot find anything like it and I am inclined to make a new species?

In your reply letter would you be kind and send me the U.S. stamp with our mutual Mannheim's picture. I am sending some of our new stamps.

Sincerely

of *C. scitum* W & W
Madagascar p 68. Pl 7 Fig 29

Carl von Linné

Nov 8 1960

Dear Rolf,

I was glad to get your two letters of Oct 20 and 28, showing that you are back at home in Karis, and have apparently recovered from whatever incident caused you to go to the hospital in Ekenäs for the second time. I hope very sincerely that things will go well with you and that you will regain some of your former energy. But that can come only through being very careful, as my doctor is continually reminding me.

You returned Teiling's letter some time ago. I wrote a long reply to it but after re-reading it I came to the conclusion that it would be useless to prolong the argument with him. It is apparently impossible to change his opinions; whether he can change mine remains to be seen, after he publishes his revised work on *Staurodesmäs*.

Your *Cosmarium* from southwest Africa is a new species, as far as I can tell. The only thing I can find like it is *C. scitum* from Madagascar, but the resemblance is small. There is also *C. warmingii* Borg., *Desm. Brasil* 1890, of similar shape and size, but it has two large scrobiculae just below the apex. So I think you will be right in making it a new species.

I am still in the process of trying to identify the many desmids in Kurt Förster's booklets on Lützelburg's Brazilian collections. Some of them are easy to recognize, but he has a lot of small *Cosmaria* with few distinctive characters that are difficult to assign, and require a lot of research into the old literature. Fortunately his drawings and descriptions are excellent, so there is no trouble in trying to determine what the artist was trying to depict.

To Dr. Mm. Randolph Taylor I have sent a detailed critique of every one of the desmids in Woodhead & Tweed's Sierra Leone paper, showing which ones are correctly or incorrectly identified, and pointing out exactly what is wrong with their descriptions and drawings. I hope he will be able to convince van Oye that he should not publish are more of this trash.

Enclosed are some of the 8 cent Mannerheim stamps that you asked for. There is also a 4 cent stamp of exactly the same design, but printed in only one colour, blue. So far I have not been able to get any of the 4 cent ones, but if you want them just let me know and I will make further efforts.

That's all for the present. Best regards from

17.xii.1960.

Dear Arthur,

Some time ago I received two books and for this kindness I wish to thank you most sincerely. (The book on snakes I have read and found most interesting). From the Amer. Geogr. Soc. I got an acknowledgment from which I see that I have, thanks your generosity got this excellent periodical for the next year, 1961. Only I wish I should know something to send you. But I am so dull that I cannot find anything and we have very little of any interest to you, or is there anything you would wish to have?

I am still very seriously ill the most depressing symptom being an almost total lack of sleep. Under such conditions it is out of question that I could deliver normal dental work, although I have tried a little indeed. The weather has been the worst in Scandinavia in 100 years. This is always very bad for sleeplessness. November had in Stockholm only 5 hours sunshine, and October had 8. Under such conditions no one can be without a touch of depression.

I believe my life is nearly closing towards its end. There seem to be some possibilities of my getting a "scientific government grant" that ~~w~~ould make me able to live only from my algological working, so I should not need to do dentistry at all. Of course I should very much appreciate such an arrangement. A dentist's work is really very heavy for an old and sick practitioner. I shall wait and see.

I have been told that our friend Hans Luther will be appointed a professor of botany at the University in Helsingfors. This would be quite nice because then I should have in the Consistory a good friend and supporter. Furthermore I think he is a really good teacher for the students. Perhaps you remember dr Luther with his wife and motor boat?

Luther and myself had written a letter to van Oye about the papers by Woodhead & Tweed. The answer to me was quite short containing a promise that such illustrations would never more be published in "Hydrologia". Luther had a more extensive answer but I have not yet seen it.

If we are going to publish jointly (?) the desmids of Sierra Leone which you also have seen (partly)- would it not be appropriate to include your detailed commentaries which you sent to Taylor?

I hope you are still going strong and so I wish you and your wife a HAPPY CHRISTMAS and a GOOD NEW YEAR 1961 full of beautiful new desmids. (Have you got the small paper on Cosm. dilatatum Järnef. & Grön?

My kindest wishes to my dear friend

in America,