To a. gattinger

St. Louis, Mo., Aug. 20.187..

You presume correctly that your plant is Solanum rostratum Dunal, a bad weed, which like several others gradually made its way toward the East.

Yours faithfully

G.Engelmann.



To a. gallinger

St. Louis, Mo., Dec 16 1879.

## Dear Doctor!

Thanks for your friendly letter and the big parcel of plants. However today it is impossible for me to decide about the many dubious ones. I only want to send some notes. Later when I can save time for it I want to go over them carefully. Besides, Gray who is working on a revision of the Composites, should have your Solidagos and Asters, and likewise the Grindelia (which supposedly was imported?), for investigation. I was pleased with your larger Solidago "speciosa". It looks to me like the real S, petiolaris, if it should not be angustata T. and Gr.

Aster 4 seems to be simplex, somewhat more hairy than usual. Aster 2 is A. carneus.

Aster 1 might be dumosus.

Lobelia "leptostachys" is L.appendiculata A.DC.

Such things as Melissa are old now and then (?), escaped from gardens; Bupleurum the same.

I was much pleased with the beautiful specimen of the both Petalostemon, likewise with Vesicaria Lescurii, and Diamorpha.

Echinacea angustifolia grows here too but three or four times as toll.

Cuscuta 8 and 10 are both C.arvensis.

Solidago "nemoralis" is false; nemoralis is not there at all; I should send it to you.

Lespedeza repens is false; look at the diagnosis (?) (long pediceles etc.).

It seems to be the chinese Lespedeza striata which since the last



10-15 years has immigrated everywhere in the South, grows on the most inferior soils, and is supposed to be an excellent fodder-plant.

The Iris must be virginica, if perhaps it is not a large verna. The flower will easily show its identity.

I was very pleased with Leavenworthia. The Michauxii I collected many years ago in Missouri, the other was missing in my herbarium.

The Anacharis has male flowers, ours having 9 anthers. It is reported that some occurs with three(anthers), perhaps another species; I have not seen it. They come off when they begin to blossom and float on the water in great quantities; did you see it? In Europe only the female plant has immigrated.

So you have collected in East Tennessee. Did you know the late Rugel there? What can have happened to his collections?

Mr. Curtiss in Florida has recently invited me to send you plants in exchange for objects from Florida. First of all I am going to send you a parcel of Juncus (Havard Herbarium), of which I still have some in stock. Then other things too. Would papers on botanical matters answer your purpose? I can send you many of this kind, and I shall do it right now.

Do study Arundinaria very correctly, I am collecting the forms in order to clarify the question finally. I have found it only once, at the Ohio, in April (very small, undoubtedly tecta!) in blossoms.

NB. Notice in opening the inner packet that loose seeds are lying everywhere with the plants; they should be carefully collected and put in packets. What is your botanical curriculum? From where do you come, and where did you study botany? I can very well understand that the loss of on's collections, which you have mentioned, is discouraging.



But that is over.

Be therefore ready to receive in a short time all different kinds of small things.

Yours

G. Engelmann



To a gattinger

St. Louis, Mo., Febr 8 1881

Dear Doctor

I have spent five months in the Pacific States and have studied there Oaks, Coniferes, and Cacti, and have brought back a valuable collection, among which is something for you.too. But this trip has entirely deranged my local work and my correspondence. I did not come back until late winter; among the many things I found on my arrival was a nice parcel of plants from you, but I could not find a letter with it. Has it never been written or has it been misplaced here? For the present my best thanks.

Some notes. More I want to reserve for a later time, when I will have studied the material more thoroughly.

Eragrostis tenuis really should be called pectinares. Isn't it amazing that Gray calls it a doubtful perennial?

Nyássa aquatica is N. multiflora, the older name.

Arundinaria macrosperma is undoubtedly correct. Do you really know Atecta and is it quite distinct?

Gerardia tenuifolia is G. setarea; in Grayas Manual is some confusion; Gray acknowledges now G. Skinneriana as a distinct species -both grow here.

Silene? must be Antirrhinum Canadense! All Caryophyllaceae have op-

Your Vitis from Island and Cumberland is a good find. It is V.rupestris Scheele. Why I am changing to English I dont know! I knew it until now only from Missouri to Texas. Does it occur frequently there, is it possible to get seeds?

The other Vitis species are correct.



Another novelty is Isoetes melanopoda (but not black!) which I also did not know East of the Mississippi.

You have to study still more Quercus alba and Mühlenbergii, the flowers, a.s.o. bark. What kind of tree is it? Does it grow between the parents?

Aster ericoides with large violet flowers is undoubtedly wrong; it(ericoides) has much smaller white clusters; but I cannot say just what it is.

Juncus marginatus may also possibly be = J.leptocaulis. You do have may Junci, compare marginatus with it.

Lemna perpusilla. Why? Why not L.minor? It is smaller than minor usually is, but cannot hardly be distinguished without the fruits. I would consider it being a smaller minor.

Callitriche verna is C.heterophylla(with circular fruits).

I am very pleased with Phlox stellata.

I am enclosing in this letter Lemna paucirostata and Wolffii; the first one is very similar to perpusilla, but likes to bear fruits like this, but the fruits are different. You will easily find and recognize them.

And now again for the present my best thanks - later a more substant-

Most friendly

yours

G. Engelmann.



Geo. Engelmann, M.D. 3003 Locust Street.

To a. Gattinger

St. Louis, Mo., Nov 6 1881.

Dear Doctor

You sent me in the summer some Isoetes which I have identified as I.melanopoda with large spores. After repeated investigations I have to consider it as I.Butleri, which I know from the Indian Territory and which at one time I published in the Botanical Gazette. However, it has several characters which I would like to study thoroughly. If you perhaps have more specimens on hand, especially older and more mature ones, I would appreciate very much having them, for, I am just now occupied with an extensive paper on the North American Isoetes, which I would like to complete.

Have you perhaps collected this plant again later; it would be very desirable to me. Let me know the details of the habitat: wet, humid, dry etc., and associated plants.

In the summer I was in the Rocky Mountains for a change, and in a lake at the sources of the Colorado I walked on a lawn formed entirely of Isoetes lacustris, three feet below the water, which until then had not been met with in the West. I am sorry to say that the plants were not fully matured than.

Besides I have brought with me several nice things and I shall be pleased to include you, to whom I am so much indebted, when the question of the distribution will come up.

Sincere greetings

yours

G. Engelmann



To a. gattinger

St. Louis, Mo., Nov 27 1881.

#### Dear Decter

Thanks for the beautiful plants. First of all for the Isoetes which I now can better study from the numerous specimens. It is my I. Butleri from the Indian Territory, which is very closely related to the I. melanopoda but differs, beside other characters, in the mach larger Macrospores, larger, blackish, and very spinous Microspores, and in the absence of a velamen. But the most interesting point is that I. Antleri is dioecious; I have examined probably 100 species from the original habitat and determined this fact. Among yours I have found thus far only female ones; but the more abundant material permits me to determine also on your plant this character. Other Isoetes are monoecious, but melanopoda is 1/3 male, 1/3 female, and 1/3 monoecious. Therefore midway between Butleri and the other species. I would have liked to have had very much nore mature specimens; perhaps you will collect some in later years; it seems that the plant occurs on different habitats. Collect abundandly of this interesting plant and try to get both sexes; thus it will happen that you indiscriminately will generally find equal quantities of males and females.

The Cuscutae are C.rostrata from the mountains and C.chlorocarpa from the Polygonum at Nashville. Your Polygalla Nuttallii is rather P.sanguinea, a form with narrower wings and smaller caruncula of the seeds.

Nuttallii is different; it has much smaller flowers, etc.

Your Plantago is heterophylla (from many pitted seeds in the capsule).

I am enclosing P.pusilla, which has only 4 smooth seeds.

I also enclose a ..... of Arabis lyrata. Your plant is A.ludovic-

Schoenolirion was very welcome to me; so was Asplenium Bradleyi, which



I did not possess.

I knew Sida Elliottii only from Texas.

Buckleya I had found myself on French broad River above the warm springs, but only in the condition you got; we want male and female flowers.

Podostemon was very welcome to me. Your Cyperus dentatus may well be C.acuminatus which grows here too.

Euphorbia Ipecacuanha is very large; I was glad to get good seeds, which I did not have. - Does not E.mercurialia grow there? One of Michaux rarities; related to corollata.

Your Chara is Nitella accuminata, subsp. subglomerata A. Braun, it seems to me.

Astragalus caryocarpus may be right, but one should have flowers. I did not know that it occurred East of the Mississippi.

In Quercus bicolor I am interested. The flowers may point to this species, but the sessile acorns and especially the scales of the cups, first of all the hairy anthers exclude any doubt that it is an abnormal form of Quercus stellata ,or a hybrid. Have you not a summer specimen? with mature leaves and better fruits. I would like to see more of it; if a hybrid, stellata is one, but which is the other parent?

Be sure and visit the tree again since it grows at Nashville, and study it and its vicinity.

I am glad to see Vitis rupestris again; it is a trans-mississippian plant too, which occurs east sporadicaly, and was found by you.

Stenanthium angustifolium is an entirely different thing, of which I breakmoff a branchlet and enclose; I have found it this summer not far from the city. Your plant is perhaps Nolina Georgiana, which I do not know; it has no fruit, by which it easily could be determined.

I do not say anything about grasses and Carices, since I never have



studied them, and which I want to study but cannot teach.

It is time that I render you a service. What things are you especially interested in ?

Sincere greetings

G. Engelmann



To A. Gattinger

# My dear Doctor

Euphorbia mercurialina cannot be rare in Tennessee and down to Florida. I have it from Lookout Mountain; but why in English? Leaves ovate, petiolate, single, large but with slightly whitish-green margins; nobody seems to have seen fruits; the specimen I have measures about one span in height.

You have sent me in the past year a Quercus under the name of bi - color which I have identified as stellata, by the hairy anthers and the acorns; but the leaves are very curious and if you know the tree, you should continue investigating it. - Could it be a hybrid. Bark? Size and shape? Fully developed leaves?

Euphorbia serpens Gattinger, in Curtiss plant No. 2500.

October 30 1882.

Dear Doctor

I find this sheet, written probably last spring.
A very patched letter. Also today a new question regarding Coniferes induces me to add several lines.

In the fall I was in the East and spent several weeks with Gray and Sargent. In Gray's collection I accidentaly found some Pinus with the label: Pinus inops, Kingston Springs. Ten. Jan. 1882. As everybody knows, inops has two-leaved bundles but this specimen has 5 leaves, like Strobus. It seems to me that you could not have made the mistake, but it must have happened in Gray's Herbarium. Or can you explain it to me? How have you spent the summer? Could you go out for a more extensive trip?

I have recently taken much interest in Crataegus, especially since in the summer some bearing black berries was discovered in West Louis-iana, which has not yet been described. You will find something about it in the Botanical Gazette. We have here some dubious forms too. How is it with the Crataegus species over there?

Cordial greetings

yours

G. Engelmann



To a. Gattinger

St. Louis, Mo., May 5 1882.

### Dear Doctor

You have supplied me in such a rich way with the interesting Leavenworthia, and you have yourself added two new species to the genus, that I must send you the only one which you do not possess. It occurs often in Missouri and in Arkansas, on habitats similar to yours, on bare ledges of rocks; fruit in the spring.

I have just gone through all of them and I find good characteristics in all of them, but I have not come to a clear understanding about the identification.

What you have sent under the name of Michauxii, with large pink flowers, should be according to the form of the seeds, aurea, and this Michauxii.

We await what Gray will have to say with his rich material.

Best greetings

G. Ingelmann



To a. Gattinger

St. Louis, Mo., May 15 1882.

Dear Friend

Thanks for the new contribution to Leavenworthia. At first I thought that ours was different from your Michauxii, but they belong most likely together, and four species remain of which we owe two to you.

What you understand under xx which you cannot decipher, is "uner-findlich" to me as is spoken in the newest German. But since you are speaking about the hill at the depot and mention some Baptisia, it may refer to Chattanooga, where I found Gaura filipes on a hill (bare) near the Depot beside Baptisia.

Certainly I would have liked to have been present at the Leaven - worthia: also in order to see all the nice companions. But Allium strictum, which is not a real Allium at all, differs from mutabile and all the others by the lack of alliaceous oder.

This only a hasty greeting

from your

G.Engelmann



To a. Gatting

St. Louis, Mo., Nov 16 1882.

"G, falcata" is G. tinctoria(is it a large tree?)

Solidago is unknown to me- but it is not well to do anything about it until Gray has finished his work on it.

Polytaenia, Centunculus, Cacalis tuberosa, Erigeron divaricatum grow here too, Aster Sortii not.

Pinus inops is doubtlesly right; Euphorbiae too.

Your Physalis Virginiana is a peculiar form, which comes very close to lanceolata, of which I possess similar not so hairy forms from the West.

## Much esteemed Friend

many thanks for things dispatched; examining them I have put down the notes above. In addition, the Crataegus specimen are left. But though the species are difficult enough if one has flowers with young and fruits with old leaves, it will be entirely impossible to determine specimens of leaves other than by guessing.

Thanks for the pretty C. cordata, which we did not have here at all; the small fruits are like the (scarcely ever cordate) leaves very characteristic. In future do pay attention to the stipulae, which more or less, are found mostly on the young shoots. Your cordata which is just blooming seems to have already dropped them. They are often semis lunary or falcate, sometimes linear; but I do not know yet of what diagnostic value they are. On Oxyacantha they are very well developed, on No. 2 they are linear and small and are dropped soon.

No.1 probably C.arborescens.

No.2 is distinguished by the flabelliform nerves, that is to say the lowest nerves run far up and are much larger than the upper ones. I find this distinct only in parvifolia and flava(glandulosa certainly belongs

- to it). I regard it as glandulosa and think that in Chapman the long recurved branches probably means spines?
- 3.very spiny, without flowers, could perhaps be a form of tomentosa, although entirely smooth. Is to me very questionable.
- 4. very spiny, with fruits, reminds me of arborescens, but rather belongs to punctata.
- 5 is missing.
- 6 must be C. tomentosa.
- 7 with the two-seeded fruits is the same.
- 8 if the fruits lying loosely in th cover belong to it, has 3 nucules, is entirely smooth and unguessable to me; perhaps it belongs to the polymorphous tomentosa.
- 9 without flowers and fruits, could perhaps be aestivalis, which I do not know very well. The young shoots look very strange, stipulae small and linear; is very dubious.
- 10 could be a form of Corriace.
- Il seems to be C. coccinea, although it has often only 3-4 seeds, see below.
- 12 and 13 I regard both as coccinea
- 14 C. spathulata
- 15 C. Crus Galli
- 16 and 17 Crat. Crus Galli
- 18 with its few flowered corymbs and pectinate glandular calyx lobes seems to belong to C.glandulosa, though the leaves would scarcely allow that; still I place it with that form.
- Il I have examined this plant again and I am somewhat dubious about it;
  I do not know any coccinea with less than 5 seeds, and flowers in large corymbs. This has 3-5 seeds and the flowers more apart. I thought of C.flava, but for that the plant is not glandular enough. But if you get stock, you should try next year, to preserve it with flowers and mature (ripe) fruits.



Not bad, that the fair sex drove you to despair on Lookout Mountain! and that you, instead of winning new partisans for the scientia amabilis and admirers for yourself, took to your heels.

10 from Lookout Mountain, you mean, because it has no seeds; perhaps you did not have any left. Large solitary fruits bears C.aestivalis.

Sincere greetings

yours

Are the seeds as long as you have drawn them?

G. Engelmann



To a. Gattinger

St. Louis, Mo., Dec 6 1882.

Dear Doctor

I have received lately from Dr.Carl Mohr in Mobile a small but precious collection from North and Middle Alabama; and instantly I thought that those regions, which are not very far from you, would present a pretty field to you for a possible excursion. In order to make your mouth water for them I enclose a sheet of Quercus Durandii Buckley, which plant I now know from Texas well enough, but the existence of which in Alabama I and others have very much doubted. Well now, Mohr has found it again this autumn. Then you will receive one leaf of the magnificent 5-8 feet tall new Croton Alabamansis, the prettiest Croton of the United States. If this lustre of silver does not bribe you, then you are proof against anything.

Since you probably are interested to learn the locality I am copying: Euphorbia mercurialina Mx. borders of woods Mont Sano near Huntsville

Ala. May 25 fruiting.

Thaspium pinnatifidum Gray ibid; only in flower.

Quercus Durandii Buckley Woods on Hills bordering the little Cahaba
River, Bibb Co.-Whiteback, November Notice the very fine and nevertheless
star-shaped stout hirsuteness of the lower blade of the oak leaf.

Dasya umbellata Gr. Shrub 1-2 feet high. Mountain woods. Sand Mountain Cullmann Co. May- only female flowers found.

Croton Alabamansis Smith and Chap. 5-8 inches high, wooded hills in Bibb Co.Ala.Nov. (flower buds).

Rhus cotinoides Nutt. Mountain woods, Madison Co. Ala. May 2 in fruit.

Mohr whom I met in autumn at Sargent speaks highly of the German settlement Cullmann in Cullmann Co.in northern Alabama which certainly deserves to be visited- mostly inhabitants of the Palatinate, who after many vexations finally have gained existence and recognition and may



look forward toward a pleasant future.

Mohr, being an apothecary, is doing collecting work for the Geological Survey of Alabama.

If you should decide to take a trip there, get perhaps in touch with the old Gentleman and ardent collector.

Since you have told me that you are longing for new grazing-grounds I thought that you would be interested in the preceding.

Never mind:

With friendly greetings

yours

G.Engelmann

