

Rec Dec 11th
am - 18

Camp Apache A.T.

November 19th 1873

Dr. George Engelman

St Louis Mo.

Dear Sir

I received your note of the 2^d ult. some three weeks ago, and commenced immediately to examine the vicinity of this place in order to ascertain how far it could be of any service to you in your particular business, this work has delayed my answer longer than I expected.

I regret very much not having known your wishes last Spring, for then I was sewing in the field in the vicinity of the Gila River and had ample opportunities for collecting many species of Yucca and Agave which were then in bloom. Here, very little can be done; we have no Agaves at all, and only one dwarfish species of Yucca, of which I have not yet been able to collect the seeds, I may however procure them in the course of time.



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Camp Apache is situated in the mountains several thousand feet above the level of the sea & consequently enjoys a climate very much cooler than the sandy plains of Southern Arizona; the vegetation is correspondingly different and few of the characteristic plants of the desert are to be seen in this region. However there is here a profusion of Pine trees, (principally *Pinus ponderosa*) and I presume that a careful search will result in finding the *Arceuthobium* you mention in your letter. I will do my best to procure specimens of it for you, specially those bearing fruit. Should I have occasion to go down to the Gila river, this winter I will also endeavor to collect the seeds of *Yucca baccata* & *Y. brevifolia*, for I know a locality where both species abound. Of course I will not neglect the Agaves and Cacti when I meet with specimens of them, but will do my best to procure good representatives of those plants. The chief trouble, at present, is that, in order to collect, I must wait for an opportunity to travel away from this Post, and there is no telling how soon I may have occasion to do so.



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You would oblige me very much, Dear Sir,
by informing me how I could procure certain
scientific works such as *Flora Lindheimeriana*,
the Report on the Mexican Boundary Survey and
other Government Reports, principally the older ones,
treating of the Flora of the West. As you have
been a Contributor to most of those Reports, I
imagine you may perhaps know of some Copies
for sale & would render me a great service
by telling me when they are to be had.

Lieut. Manning was mistaken
when he represented me as an Alsacian; I
was born far from that province, in the South
of France. My knowledge of the German language,
from which I presume Mr Manning inferred that
I came from the Rhine country, was acquired
altogether in the United States.

With hopes that I may be able to
to find for you many interesting specimens,
I remain

Yours very respectfully,
J. B. Girard

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P.S. No work in my possession gives the scientific description or "diagnosis" of *Pinus edulis* or Piñon, and as Mexicans are generally very unreliable in such matters, I do not care to ask their advice in my search for that tree.

Therefore I wish you would be kind enough to send me the characteristics of that species, so that I may recognize it and look for the *Arceuthobium*.



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Recd Feb 28th
Ans March 6

G. B. G.

Camp Apache A.T.

January 31st 1874

Dr. Geo. Engelmann

Dear Sir

Your letter of December 18th which arrived here three weeks ago, afforded me much pleasure and satisfaction, and far from "boiling" me, on the contrary, increased the interest which I take in botanical matters. Heretofore I had collected plants and studied them in a desultory manner and without any particular object in view except my own curiosity, and my attention had been altogether taken up by herbaceous plants; your letter has directed my efforts into different channels, in which I can labor with more system and possibly render myself useful to the cause of science.

I send you by mail a small box containing 14 different specimens pertaining to the Flora of this region. The six first ones were collected under my instructions by my Hospital Steward who was several weeks out with a scouting party, west of this Post.



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They consist of seeds of Agave & Yucca with pieces of leaves &c. Each one is numbered & accompanied by a sketch of the plant made on the spot. The other specimens are twigs of Cedar, Juniper, Pine, Oak, and some Mistletoes. Would you be kind enough to give me the name of each specimen (if sufficient for diagnosis) so that I may see how near I came to it? And if you wish for additional quantities of any specimen give me the number of it, and I will send you more.

As I said in my former letter, there is no Agave growing near Camp Apache, and Specimen No. 2 was collected far from here. Furthermore, my Steward tells me that the seeds are scarce at this time of the year. Of Yuccas we have two species viz. *Y. angustifolia* and *Y. baccata* (the one with thick leaves wider about the middle than at the root & with very coarse fibres) I have been unable to find any in fruit, but No. 4 Sp. consists, I think of seeds of *Y. angustifolia*.

I have observed but two species of Pine in this immediate neighborhood, *P. brachyptera* and *P. edulis*; I am certain that *P. monophyllus* must be very rare, if it exists at all around here, for I have examined hundreds of pine trees as to the



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character of the leaves. P. Arborescens does exist in the White mountains; I saw a specimen of it last summer, collected by Mr. Gilbert, Geologist of Lieut. Wheeler's expedition; he found it some fifty miles north of Camp Apache. There is no lack of Arceuthobium on our Pinus edulis & I send you some (No. 13); but I have searched in vain for any specimen with berries; either they have matured and dropped off already, or the Arceuthobium does not bloom every year. I send you also Mistletoes of the Juniper and the Oak. Our evergreen Oak is, I think, Q. Emoryi; the leaves vary in shape & indentation; Nos. 9, 10, & 11 will give you the means to judge. We have also a small deciduous beaved oak which grows in deep moist cañons; I enclose a leaf of it & would thank you very much for the name; I took it for Q. agrifolia, but on very slight grounds.

You ask me "when are the Juniper seeds ripe?" I regret to confess my inability to judge of their maturity; I should think they were ripe now, from the appearance of the berries, some of which you will find in No. 7.

I have not seen any Abies out here, neither have I heard anyone mention Spruce as growing



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in the White mountains.

Thus far I have observed but two species of Juniperus the one called Cedar (*J. virginiana*) and the Juniper proper (*J. occidentalis* ?); likewise two species of oak (before mentioned) & two Pines. Among other trees we have Cottonwoods, Willows, Walnuts (*Juglans rupestris*) Ash (*Fraxinus velutina*) Beech and Box elder trees. I have a Catalogue of some 160 shrubs and herbaceous plants a copy of which I could send, if you desire it, but I think it is very erroneous & without much value. Among them, are six or seven Euphorbias.

I regret very much that my position of Post Surgeon here does not allow me to go far in search of specimens; I am compelled to be always present at the Post, and five or six miles is as far as I dare go at any time. Consequently, there cannot be much variety in my collections, but such as they are, I offer them to you, hoping that I may at some future time prove more useful.

I have a certain number of botanical works with me. They are as follows: Torrey's Botany of Whipple's, Williamson's & Parke's Surveys (Pacific R.R. E. & Surveys Vols IV, V and VII) Watson's Botany of the 40th parallel, Torrey's Botany of Emory's Reconnoissance in N.M. & Cal. 1847, Torrey's *Planta Fremontiana*, Gray's *Planta Wrightiana* (2 parts) *Planta Fendleriana* and *Planta Muerberiana*. I had the Botany of the Mexican Boundary, last summer but it did not belong to me and I have returned it to the owner.

My object in asking for *Planta Lindheimeriana* was simply to add that work to my botanical



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Rec^d Febr 28 1876

library. I am endeavouring to procure most of the works which treat of the Flora of our western countries and having been unable to find *P. Lindheimeriana*, anywhere, I thought that you, being one of the authors might know of a Copy. I thank you very much for your kind offer of the *Cactaceae* of the Boundary, but a friend of mine in Washington has recently informed me that he would look for a Copy of the whole Report and buy it for me. Should he fail, I will gladly avail myself of your offer.

I will always be glad to hear from you and to receive any advice or instruction you may deem proper to give me.

Yours very sincerely
J. B. Girard

G. undulata



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Vol. 11 p. 118

[Faint, illegible handwriting on lined paper]



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- | | | | |
|------------------|-------|--|--|
| West of
Cedar | No. 1 | <i>Yucca angustifolia</i> | Jasylis |
| | 2 | <i>Agave</i> | (empty) use = <i>Agave</i> |
| | 3 | Unknown | Jasylis ♀ |
| | 4 | <i>Yucca</i> or <i>Agave</i> | |
| | 5 | Other <i>Yucca</i> ? | Jasylis ♂ |
| Celtis | 6 | Same seeds as No. 3 | Jasylis |
| Ulmus | 7 | <i>Juniperus occidentalis</i> | with ^{mistletoe} <i>(Urtica)</i> |
| Populus | | <i>benicis</i> & <i>Mistletoe</i> (<i>Phoradendron</i> ?) | |
| | 8 | Cedar (<i>Juniperus virginiana</i> ?) | with <i>benicis</i> & <i>mistletoe</i> . <i>Phoradendron</i> |
| } | 9 | Evergreen oak (<i>Quercus Emoryi</i>) | with acorns - Leaves Spiny |
| | 10 | " | with entire leaves |
| | 11 | Two kinds of leaves growing on the same tree | |
| | 12 | <i>Mistletoe</i> or oak (<i>Phoradendron</i> ?) | |
| | 13 | <i>Pinus edulis</i> ? | flaw |
| | 14 | <i>Mistletoe</i> (<i>Arceuthobium</i> ?) | growing on No. 13 |



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