

Dec 2²
Dec - 14

Bluffton
St Luke's Parish
So. Ga

To -

24 Nov 1870 -

D^r Geo. Engelmann, St Louis mo.

Dear Sir,

Your letter of 14 Nov reached me in due time & I shall endeavour to procure the Yuccas as you desire. Please to remember however that I am no Botanist as I only "hunt up" any plant which may be of use medicinally, or a chance flower on the roadside either for recreation or amusement! Furthermore should I fail at any time to obtain what you need do not attribute it to indifference but to the changes of the time!

"Before the war" (an usual phrase for referring to a Halcyon time of perfect Peace & Prosperity!) I might readily have obtained for you any specimen on our Sea-board, as my ~~fair~~ visits to the sick carried me daily from isle to isle. But now all of that is changed, locomotion either by land or water is difficult - so that I seldom reach those special localities where are to be found most abundantly the plants about which you desire information. But this! -

I know only three species of Yucca about here, & no "varieties" of them, 1st the "Bear Grass" - "Y. Filamentosa" - 2^d "Y. Stonosa" - 3^d "Y. Draecnis" (?) or "Aloifolia". But I do not think I can say anything more than what may be learned from Elliott or Chapman whose works I now



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have before me. 1st "Y. Filamentosa". Without
a stem, leaves springing from the earth,
^{generally} ~~sometimes~~ rigid - frequently spreading out & re-
-curved & lying on the ground - having a
spine & long white threads detached from the
margins, twisted up & curling. Scape about
6 feet high, & terminating in a long panicle
of bell shaped flowers. Grows about here in
sandy soils on the edges of cotton fields & gen-
-erally in little patches. Chapman says "stem
rarely more than a foot above the ground" -
I have never seen any stem - The scape shoots
out from the surface of the earth, surrounded
by the rigid, or smooth & flexible leaves.
Does not bloom every year, nor do I know at
what period it again puts out its scape &
flowers. I visited a spot yesterday where I
observed some very beautiful plants in 1868,
- I found the old dead flower stalks of that
year which had long been trampled - no capsules
of course & no signs of having bloomed this
year. 2^d "Y. gloriosa". Stem about 4 feet high,
stout, - branched, sometimes 3-branched, &
covered to the earth with the old decaying leaves.
Leaves lanceolate, clad, entire, very acute,
with a strong spine, - flexible, the lower ones
bending down & covering the stem to the earth
& entirely concealing it. Colour of latter paler
green than either Y. F. - or Y. D. Can tell you
nothing about the flower or fruit; - must have
seen them often, but not since my attention
has been directed to the yuccas this year.
There are only 4 or 5 of these plants in this
neighborhood & none of them have bloomed
this year, The general appearance of the Y. F.
is stout & solid, & very leafy. 3^d "Y. Dracuncus?"
or "Aloifolia". Stem about 10 feet high, - not
generally erect, but twisted or bent & most fe-
-quently branched & covered to the ground with
the old leaves, but not so thickly or com-
-pletely enveloped ^{by them} as in the former.



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Leaves more rigid than y. g. of a beautiful
 green - having a varnished look; Spine
 very strong - margins very rough - serrulate?
 "young leaves erect & standing" - the old
 bending down. Flowers in a compact
 panicle 1/2 to 2 ft high - seldom 2 ft I
 think. Found in same situations as with
 the former, & frequently found growing in
 clusters or patches just on the margin of
 salt water. If I mistake not the leaves
 are covered with an extremely thin pellicle(?)
 wh. partially disintegrates when you break
 or bend them. I've seen but very few
 blooms this year & today obtained only a
 poor specimen of the fruit - but the best
 I can get. Could I succeed in reaching
 a little island in May River I might get
 excellent specimens but I may not readily
 get there, "Cuffed" being unwilling!!

If I do not send the package containing
 the leaves & so of the mail wh. takes
 this letter you may look for it
 about a week after.

I have a few capsules of the
 "Pinckneya Pubens" wh. you also
 desire, & wh. I plucked some days
 since from the only spot where they
 grow in this locality. These also I
 will send, - it is most likely that I
 can get others this season or I think
 they have of this time burst & discharged
 their seed. During the past summer I
 sent 2 or 3 specimens of the flowers & to
 Mr. Ravenel wh. I can say you could get
 from him for an Herbarium if desired.



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I have never seen the "yucca filiformis", tho' I live but 20 miles from the sea-coast of Fla. when it is said to grow. Please examine the leaf marked "No. 2" - young leaf of yucca filiformis "y". The stem was about 2 feet I think.

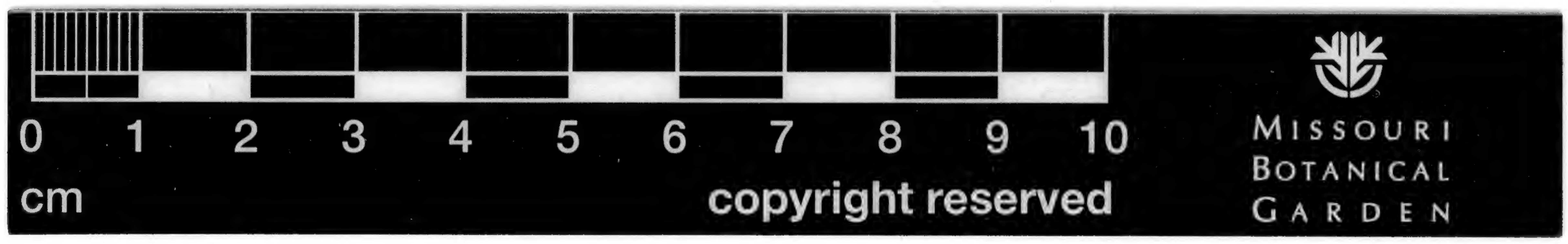
As I remarked above I know of no other yuccas here & no "varieties". It is true in shady places & in different soils you may find a slight variation in either the colour, - the length - the width & the rigidity of the leaf, but this amounts to nothing. Possibly the Experienced Eye & accurate knowledge might detect distinctions, wh^{ch} wd escape an unpractised Observer like myself. The slight differences between my own observation & the notes have been alluded to, - but as you see do not amount to much. Elliott

Our Low Country Botanist seems to be unusually accurate as to all plants growing near his old Home (Beaufort) not far from here, & I, at any rate, wd hardly hope to correct him.

His talent for the eye of order & observation is, as I remarked out, in far other forms in the Engineering skill, readiness of resource, & heroic courage of his namesake & kinsman Stephen Elliott of Fort Sumter memory! Please pardon this passing allusion my Dear Sir to a terrible Past, & believe me to be very sincerely yours

28. Nov. I shall send the package with this letter, containing the leaves of the yuccas & a miserable specimen of fruit of "yucca filiformis" - all find no dry capsule of "yucca filiformis"; but 2 plants bloomed near here during past summer, one was plucked by a friend to ~~be~~ his market time - the other I visit ~~seeing~~ & saw no signs of it. If I get to the out-let - shall endeavor to send you better ones - best I can do at present. Enclaves all in package. Capsules of Pinckneya.

J. M. Munchamp



Rec^d Jan 4th 1871
Aug Jan 20

Bluffton
St Luke's Parish
S. C.
28 Dec '70

75

Dr Geo. Engelmann

Dear Sir,

Please accept my thanks
for yr. very obliging & instructive
letter as to the form of *Jucca* &c.
I had hoped to have visited the spot
when the only 2 or 3 *J. floriosa* in this
neighborhood grow, for the purpose of
 endeavoring to answer yr. queries satis-
-facturily, but this I have not as
yet been able to do. I shall however
keep yr. letter close & shall endeavor
soon to give you the information
you desire. Next summer however should
I be fortunate enough to get over to
the African Paradise of Hilton Head
I shall remind you to keep my
eyes open for you. I may say tho'
in advance that I do not remember
to have seen the leaves of *J. f.* -
"slightly filamentous", nor can I tell
you anything of the flowers, for I
am not sure that I ever observed
them - the few plants about me
here not having bloomed this sum-
-mer! Nor can I say otherwise as
to the fruit - yet without doubt I
must have seen it often. My attention
has only this summer been attracted



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to the various Juccas. you ask me if
 the *J. Draemis* has always shorter &
 wider leaves than the dry sand or land
 forms? Certainly I think shorter, &
 perhaps also wider, - but I imagine
 the shading & protection of the tree
 has more to do with elongation, or
 widening than perhaps all the in-
 -fluences. When growing under trees
 the leaves are generally very long &
 flexible & more narrow, as you will
 see by comparing the "Salt water" &
 "Grassland" specimens, which I now
 send you. I have just recd. from
 a friend a few capsules & a few
 many seed of *J. filamentosa*? or
 this seed I write & send on at
 once. My friend lives ^{only} 10 miles
 from here, yet in the river-belt &
 fresh water region of New River; I
 had described the plant to him
 asking if anything of the sort grew
 about him? - yes! near his house,
 for a negro was with his "saw"
 last summer, by the large white blooms dimly
 seen by moonlight, - he (the Danley)
 thinking he had seen a "Speritt" or
 a "ghose"!! I am ~~very~~ curious to
 visit the place & see for myself this
J. f. - for I was not aware that in
 this region they were ever found in
 the wet & clay soil of N. River, nor
 have I ever seen leaves of *J. f.*
 so long, or so very flat, or so flexible,
 perhaps I shall say flaccid.

Salt water, N. R.

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 GEORGE ENGELMANN PAPERS



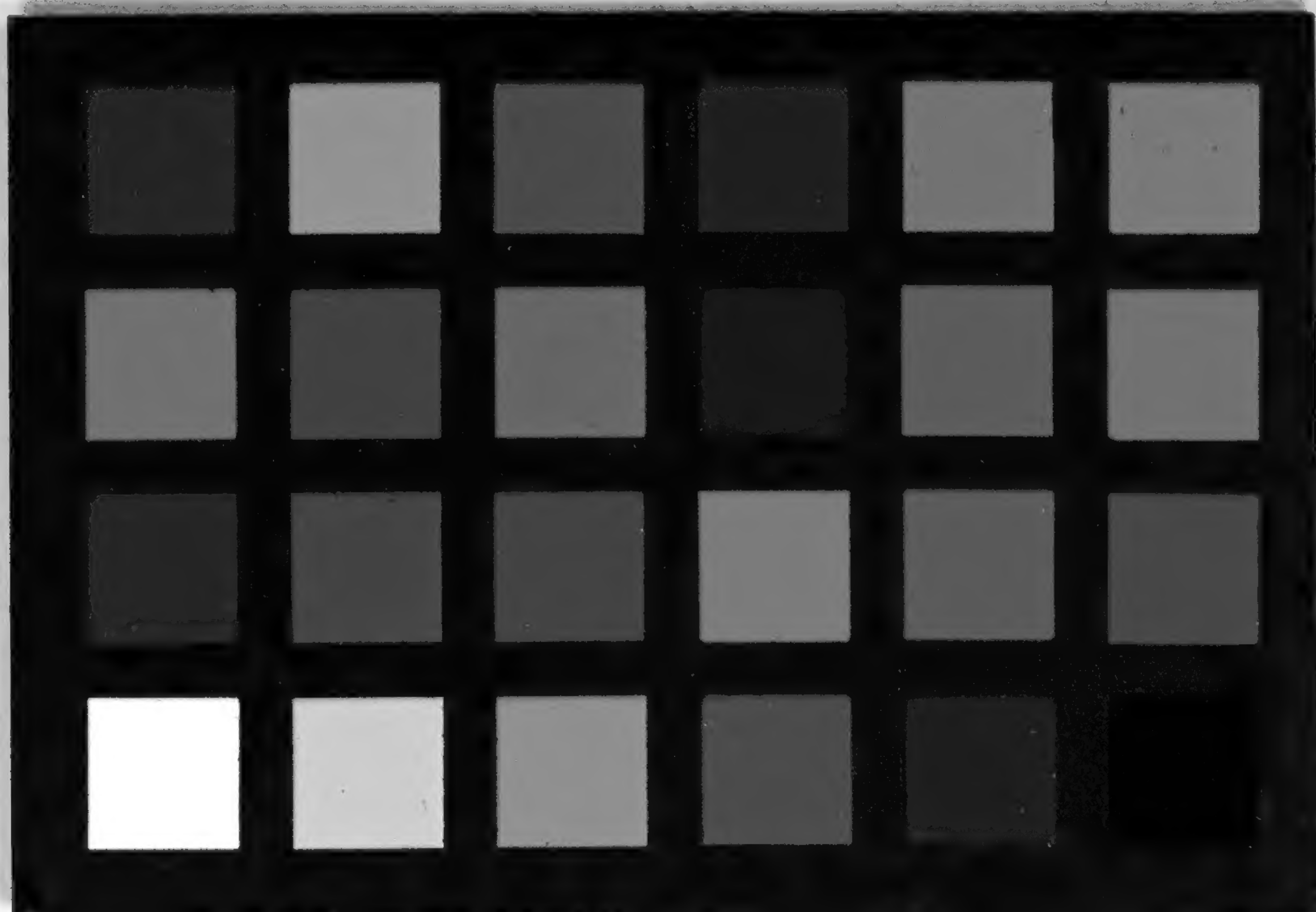
But you will determine for yourself when
you examine with leaves, capsules & seeds.
If I ever get these I shall carefully ex-
amine & report. I send also the
fruit of *Y. laevis* from May River
but not growing in salt water but near
it, & in good soil, & a leaf also from
same tree marked. These specimens
are very green & luxuriant & not
tall & spindly, — hardly over 5 feet
& thickets; — also more seeds of
Pinctenya pubens, — I wish I imagine
to sow the whole of the "gardens"
"Plantations" if the negroes have time now
for that species of industry!! "As
soon as they get out of the hands of the
Germans" — you say! — alas! I very
much fear that they may be along way
off, as it looks ~~at~~ somewhat at pres-
-ent as if these "solid" German
"Teutons" (as Emerson calls them) —
have come "to stay"! You will
hardly mind if I say that my sym-
pathies are with the "frog eaters", for
I claim to have partly come from
this country "after the revocation of the
edict of Nantes" in the days of long
ago! — and we all of us here, had
we our way, would sink every Prussian
in the Rhine! But you will pardon my
the passing jest elicited by your
Remarks & we will both of us hope that
the end of this terrible contest is near!
I find this *Pinctenya* growing in
a swampy "gall" with a



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Sandy ridge on either side, of scrub oaks & Pines.
I have often planted the seed in boxes with
woodland earth kept moist, & they always came
up abundantly. Last yr I had one from seed
about 3 ft high I think. It pined out as
soon as transferred from the moist box to the
parched & arid soil of the garden.

I sent also a few seeds of
Nelumb - but a Sapindus & Agave
Virginia - as I happened to
have collected them, not knowing
whether they might be found
further North. I should be delighted
my Dear Sir to get so valuable work as
this one you refer to on the Coacti. & thank
you very heartily for the same. I should value
it much. I know but 3 Coacti about
here, one on the sand hills along the beach
~~called~~ called "Pin-Pillows", - another with
large & flatter leaves about one, & another
which I've only seen around the old Episcopal
Ch. yard in Beaufort, which has much
larger & thicker leaves still, & very long
yellow spines. The rather insipid fruit
(very luscious looking tho') "we boys" in "The
Days that are no more" used to amuse
ourselves by eating on the old tomb stones
& many a feast did we make in "Picky
Pears" as we called them; I have never
seen them anywhere but in that spot, a Dr
J. J. Girard however brought them from his old home
there, & planted them at his place near this
village. He told me that it was thought the
Spaniards had brought them from St. Augustine Fla
in their many incursions & while fighting with
the early colonists of Beaufort. The fruit is
of a beautiful purple & large. Very truly & respectfully
Yrs
J. M. Mellichamp

Ch. yard in Beaufort



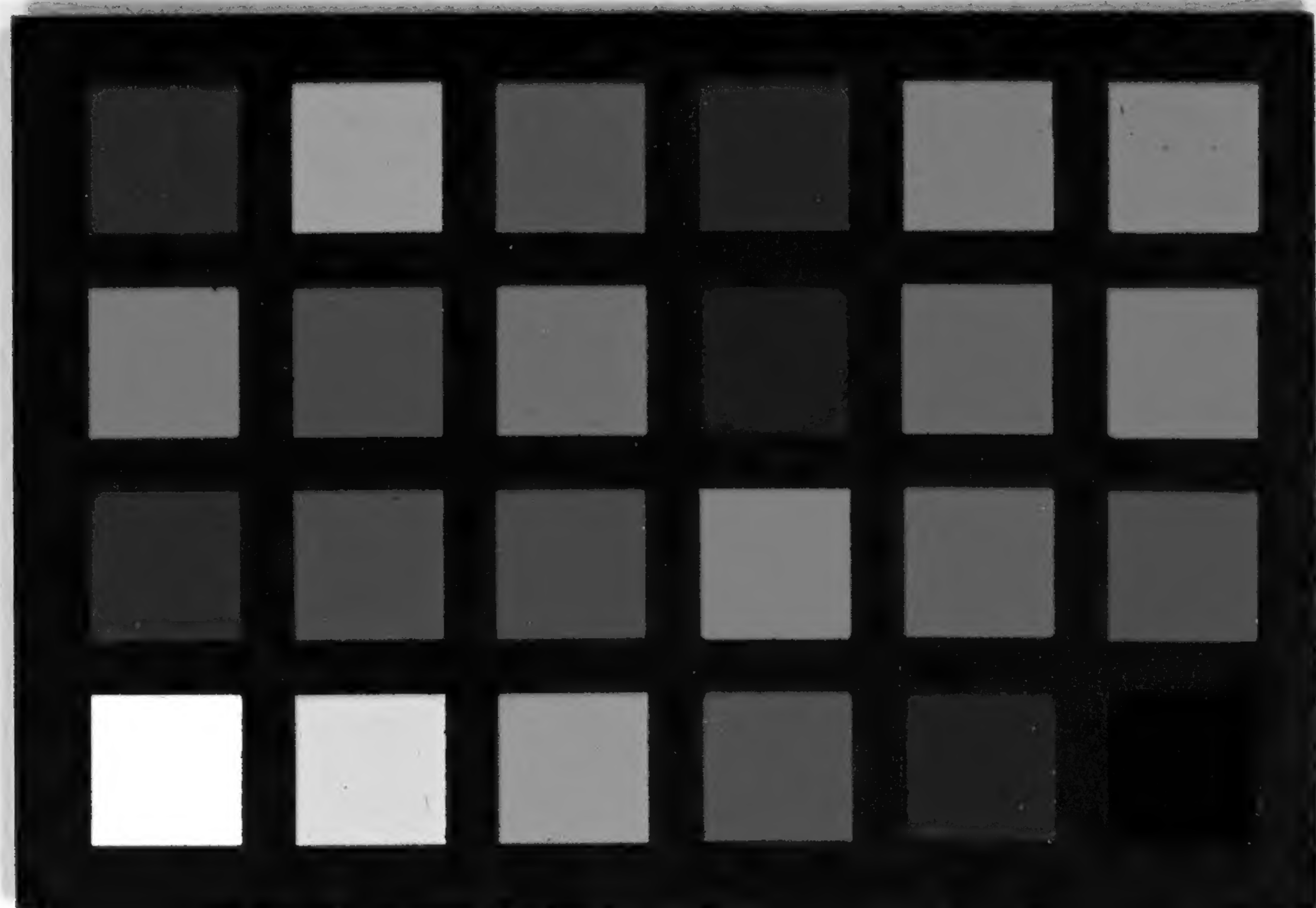
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Recd Jan 6 1871
Ans Jan 20

Bluffton T.C.

31 Dec 70

To
Wm. Engelmann

Wm. Eng -

A few days since
I sent you a package containing
the capsules & seeds of *Y. Filamentosa* (?)
& also good fruit of *Y. Baccata* &
&c, at the same time writing you
that I was attempting to answer your
queries as soon as I could visit the
spot where the only two or three
"gloriosas" in this neighborhood grow.

I had an opportunity of doing
so to day & as I think I may
have "struck" something else while
there I've thought it best to write
at once & also send certain other
specimens which are new to me & which
may be interesting to you.

Yucca gloriosa. The older leaves are
a little rough on the back, but the younger
quite smooth, - The latter are smooth
on the edges, and not rough or serrulate,

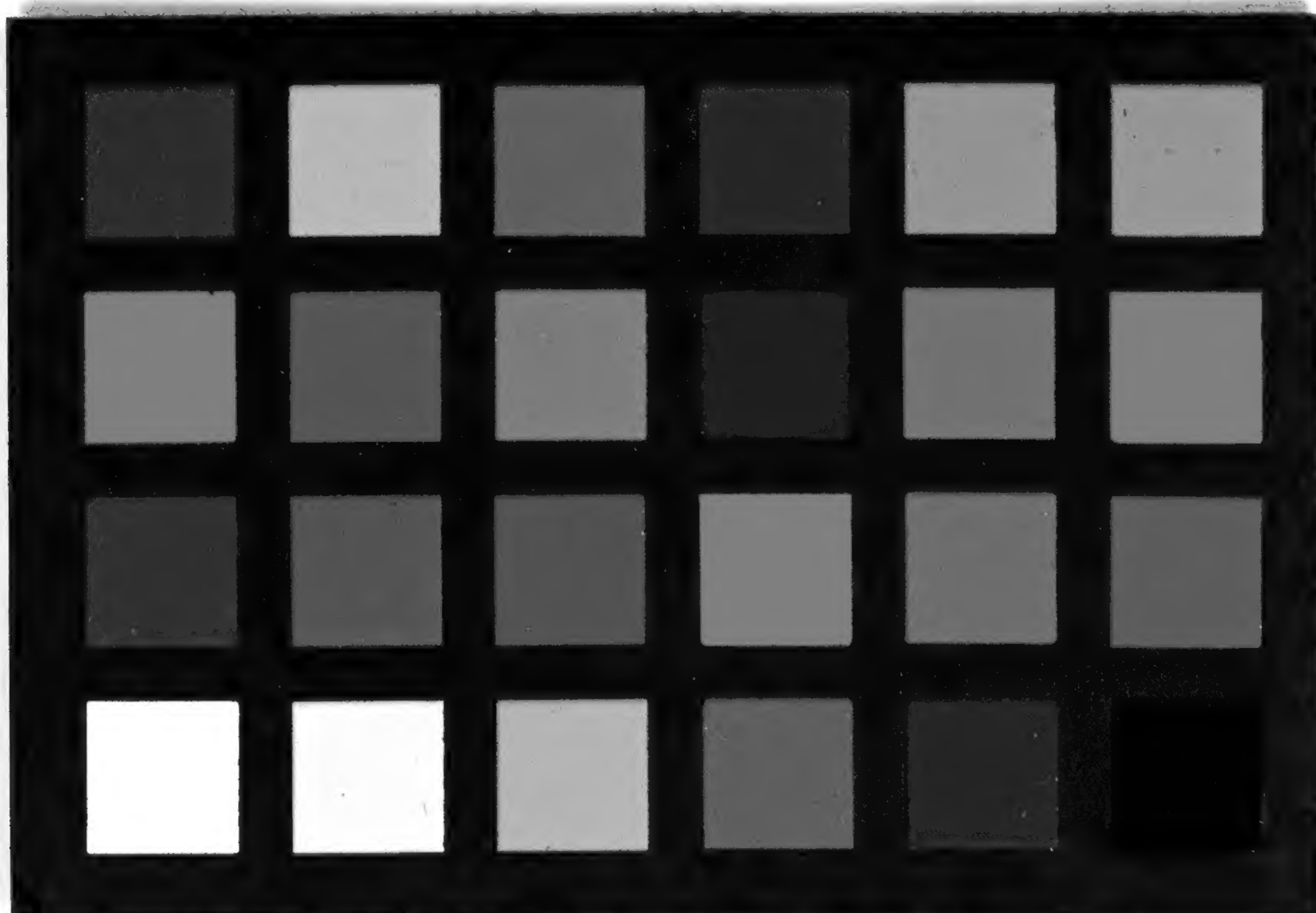


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I send a young leaf so that you may satisfy yourself. As to the fruit & flowers (as I remarked before) I know not that I have ever seen them, so that I cannot tell you whether it ever flowers before it makes a trunk, or whether the panicle be sessile between the leaves or not. "Are not with you the leaves slightly filamentous?" After a careful examination of all the plants I did find 2 or 3 leaves very slightly filamentous, - the threads being brown & not white as in the "Bear grass". I send also one of these leaves.

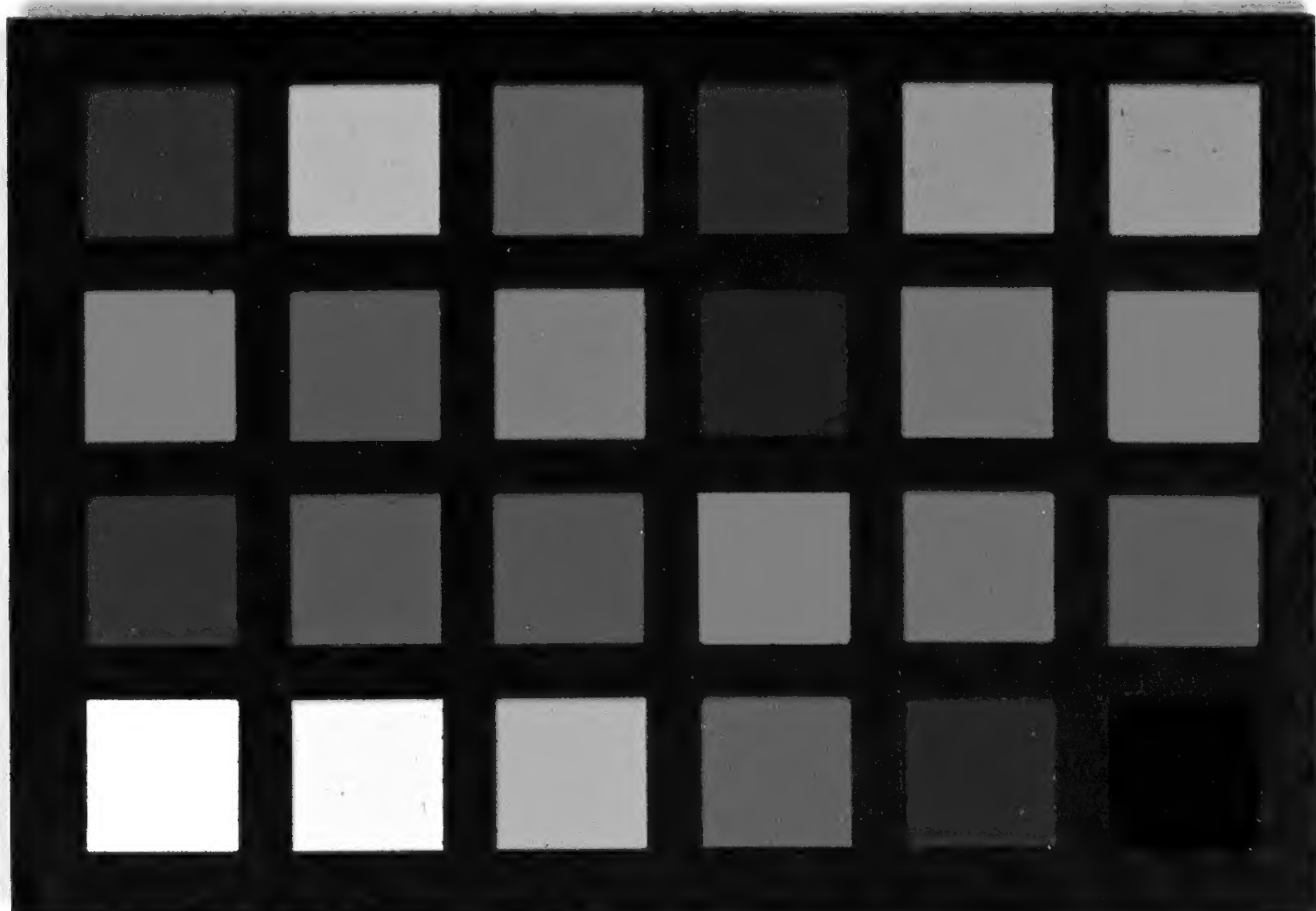
M. Braconis. This plant differs somewhat in various situations in having leaves either of a deeper green, or more glossy, longer or shorter, - wider or narrower, but they are invariably stiff & rigid, ^{unless densely shaded} & serrulate, and they all of them will "draw blood" if you meddle them! Braconian indeed! Some indeed appear to be stouter, & more closely imbricate, but I am still of the opinion that these various differences are due either to soil



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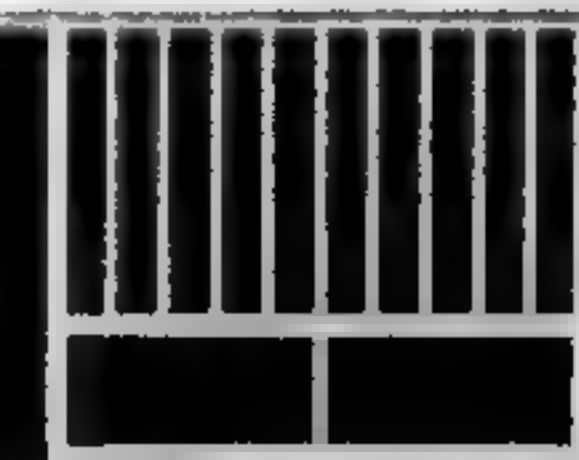
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or to their being more or less shaded & protected. To day I looked at a good many growing a few feet from Salt water (May River) & I think I may say certainly that the leaves are generally shorter, but not wider than those growing else-where, indeed those plants whose roots are laved by about every tide have short & narrow leaves & are for the most part inferior, but those growing in good soil have leaves very green & beautiful, — ^{more} rigid, & if I am not mistaken broader than any others!

And now for the other plant which I found to day but a short distance from those which I sent you as *Y. gloriosa*, and growing immediately on the little bluff overhanging the river. There were two of these plants growing alongside of each other, & which you will find marked ⊙ No. 1 & ⊙ No. 2. Tell me what they are! At first glance I supposed them to be younger plants of the *Y. gloriosa* but upon close examination & finding a ^{flower} stalk from three to four ft high having precisely the form & appearance of that of my *Y. filamentosa*



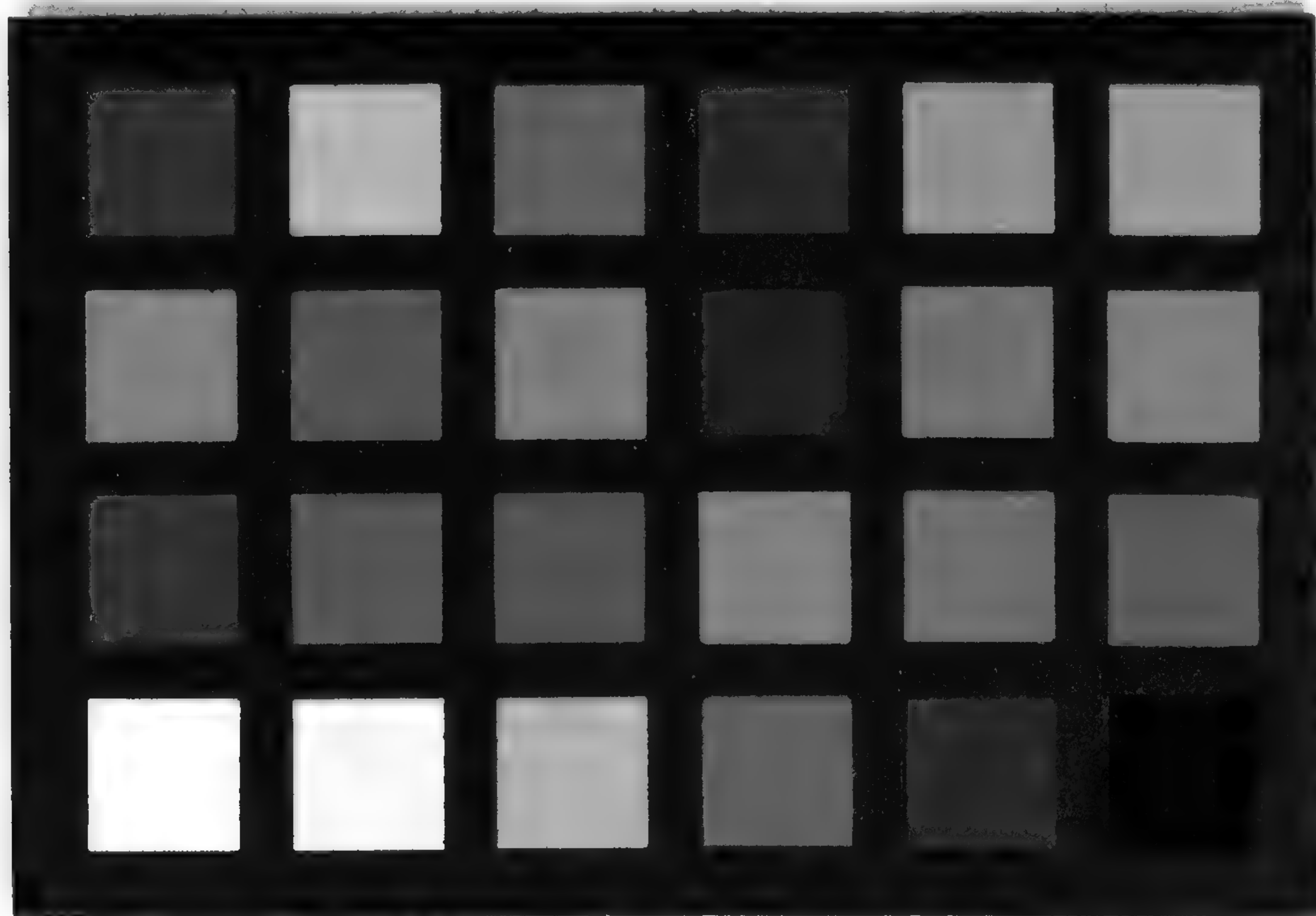
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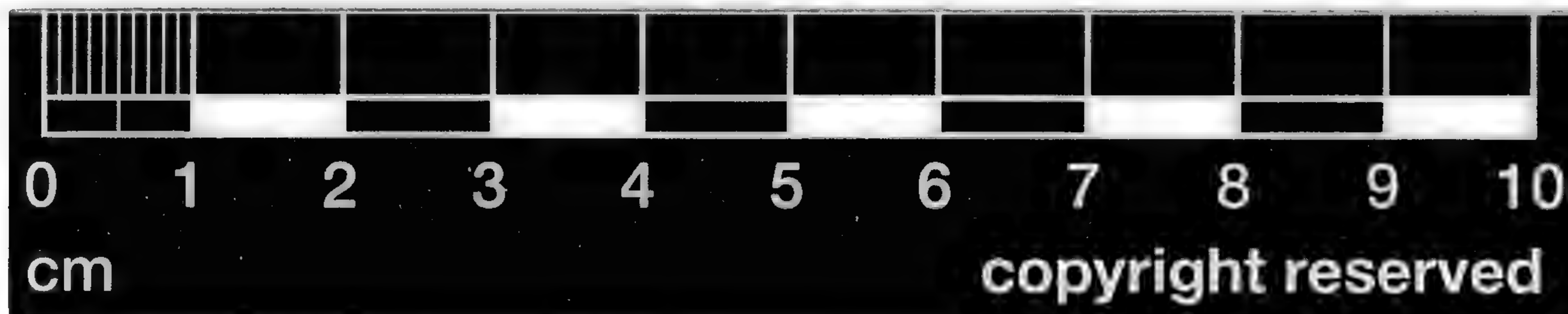
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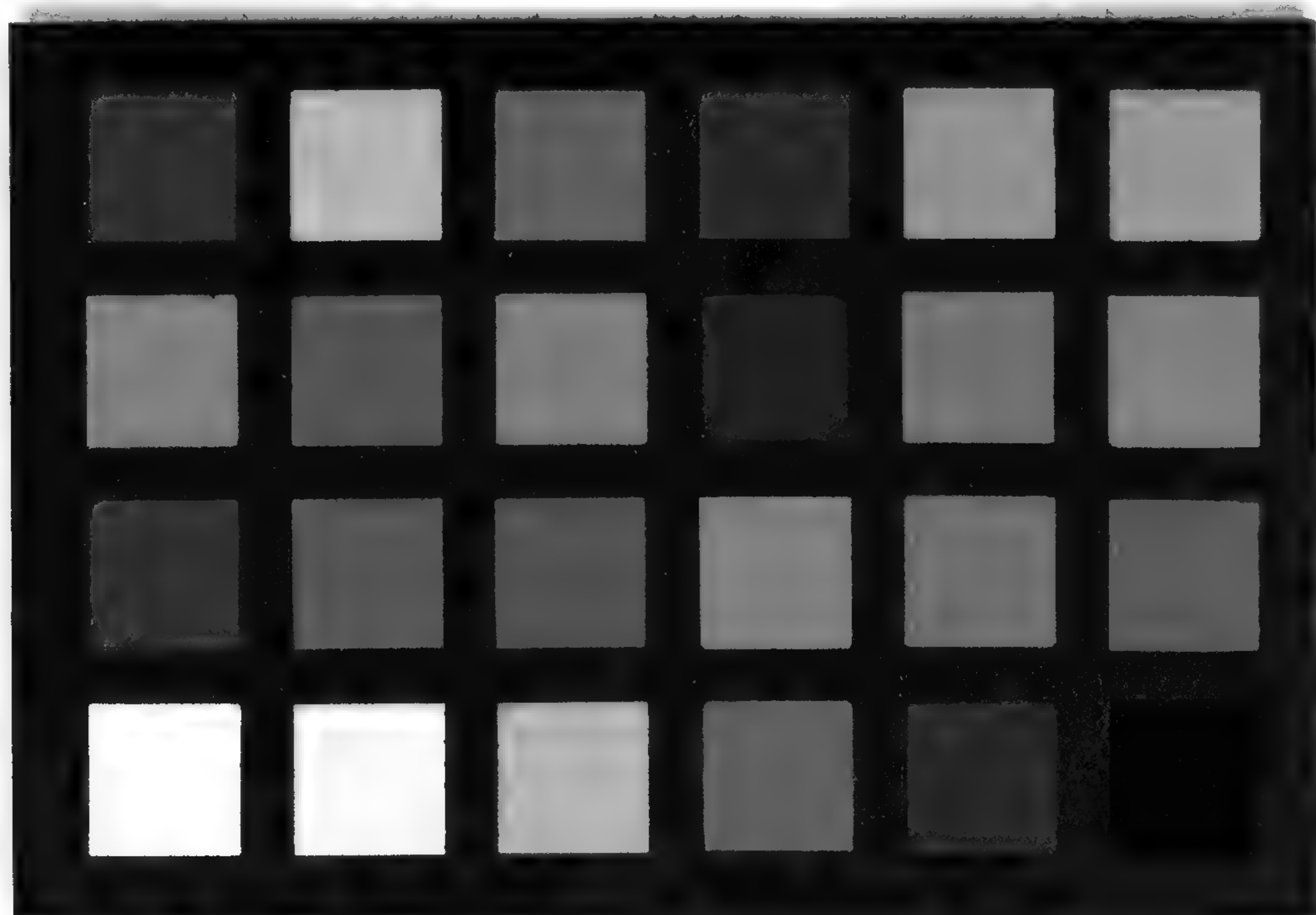


I was somewhat staggered, for I could not
suppose that these stalks had borne heavy
pulpy fruit, but only dry capsules like
they. F! The capsules be they dry or pulpy
had disappeared, so that I could not determine
from them the character of the plant! Is
it certain that the Y. gloriosa bears pulpy
fruit — the notes I believe says, but
you have never seen the fruit you tell
me! Is this then Y. gloriosa or ^{the} Y. recurvi-
-folia of Elliott? The one plant had a trunk
about a foot high, — the other a trunk
3 feet high, — the former with the flower
stalks growing immediately from the centre,
in height about 4 feet; — the latter with
the old flower stalks pushed out from the
side about a foot from the top, — last, or ^{this}
year's growth of leaves having thrust it
out as it were & inclined it to one side!
The leaves are longer, narrower & rougher than
the Y. gloriosa & the older on one of the plants
serrulate, as you will see. Not plained I think,
nor spotted as in all of the leaves of Y. g.
and of a deeper green. Not filamentose.
You tell me that there is another



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Nov 6 1871

(5)

species of Bear grass growing in Aiken SC
which in Europe you have seen with a
trunk 4 to 6 inches high:— this I con-
clude is of course not a "Bear grass", but
either Y. f. — or *Recurvifolia*, still, the
flower stalk reminds me so much of the Y. f.
that I know not what to think. I am
aware that the panicle of Y. f. is said by
the writer to be large — 3 feet or thereabouts
but I do not feel sure that the old
dried flower stalk that I send, with ap-
arently only one "stipule" at the base
corresponds with the description otherwise!

I fear my ^{own} description that I weary you
with my unscientific & inaccurate de-
scription & that you will smile at
my "much ado about nothing", but I've
thought it possible that I might be
obliging ^{you} by even my lame attempt to
bring before you the plants concerning
which you desire information! Another
year of hunting up these plants &
having better luck in finding fruit
& flowers I may get for you what you
need!

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GEORGE ENGELMANN PAPERS



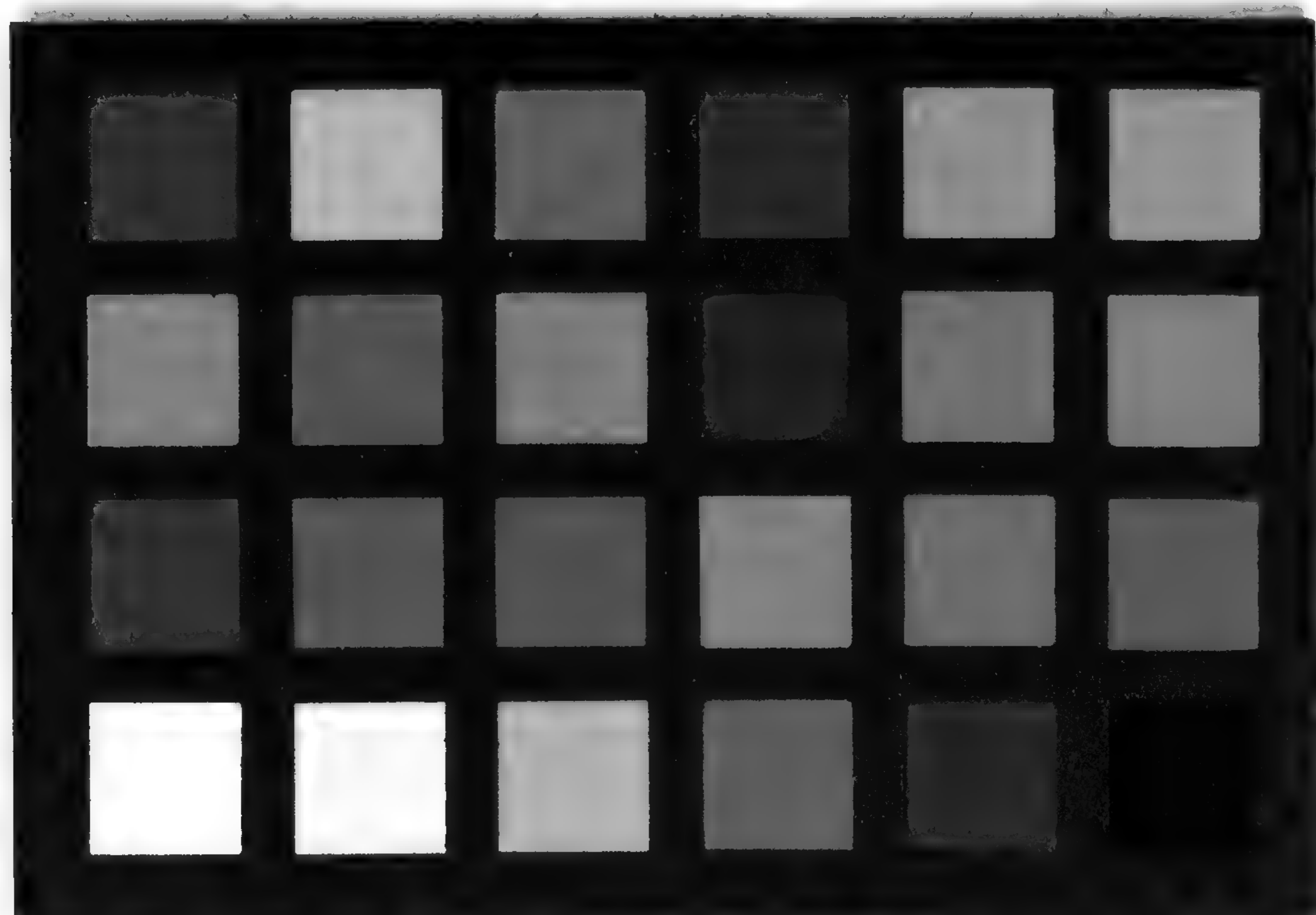
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Please also examine the leaves
marked X wh^{ch} I formerly sent
you as the "young of Y. gloriosa?"
wh^{ch} I found growing from several
clusters of short trunks in a field
of brown grass. These are very soft
& flexible but resemble somewhat
the 2 plants of wh^{ch} I found today.

Very truly & respectfully

J. A. Muehlenberg

P.S. - If these plants be indeed
Y. filamentosa - they differ from my
other specimens sent in 1st having
a trunk from 1 to 3 feet. 2^d in
having leaves, rough, more rigid,
serrulate & besides having no
threads detached from the margin!
But you will determine for self.

Yours truly
J. A. Muehlenberg

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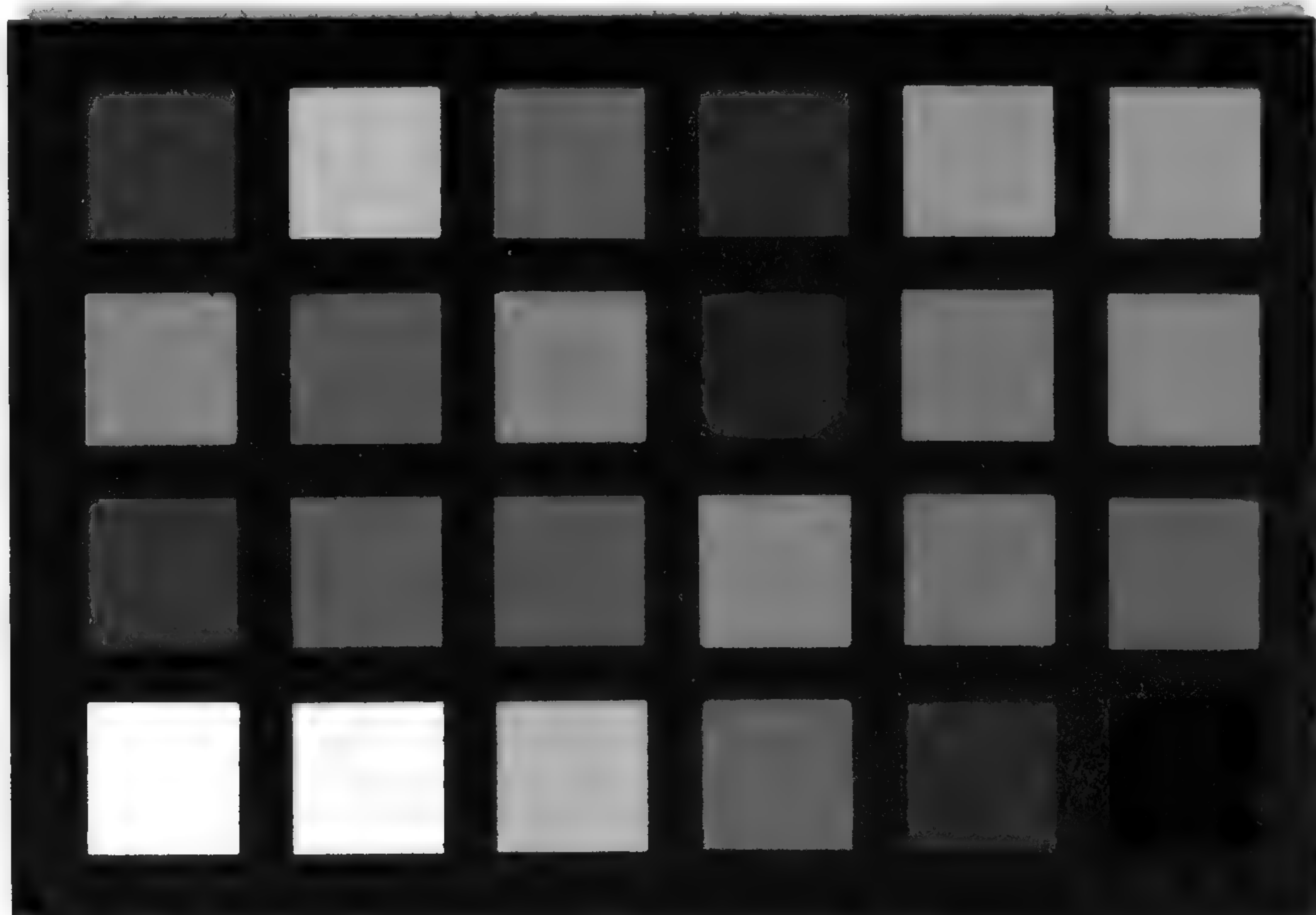
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Dec Jan 20
Jan Jan 20

"Stiles Point"

Gas Inst. S.C.
15 Jan '71

2.
Dr. Engelman

Dear Sir

Before leaving Home

I sent you two packages of Yucca specimens with accompanying notes which I enclose you need.

Being here for a few days on account to my kinfolk I have tried to keep my eyes open while rambling about in my old haunts, in hopes of getting something which might be of interest to you.

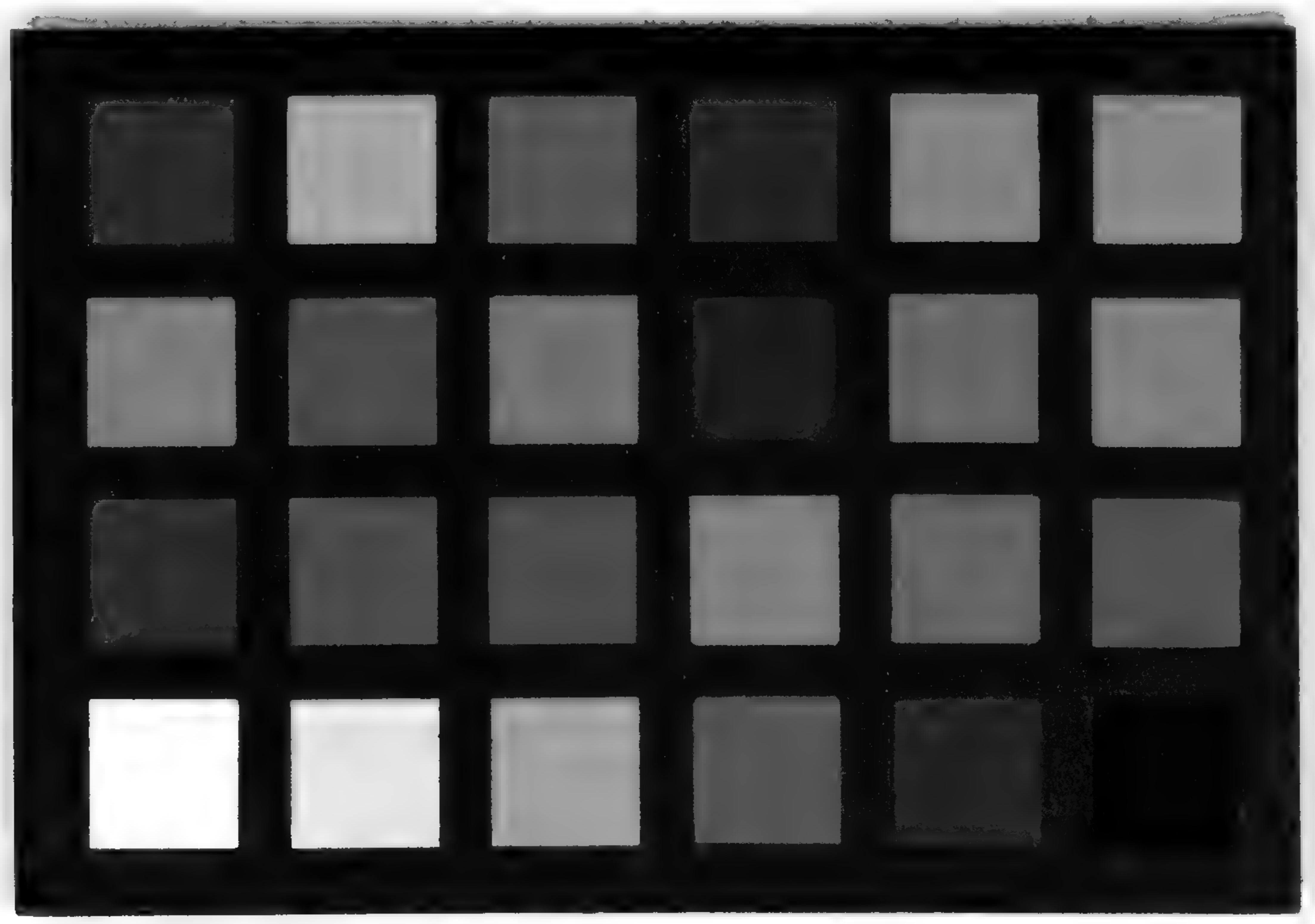
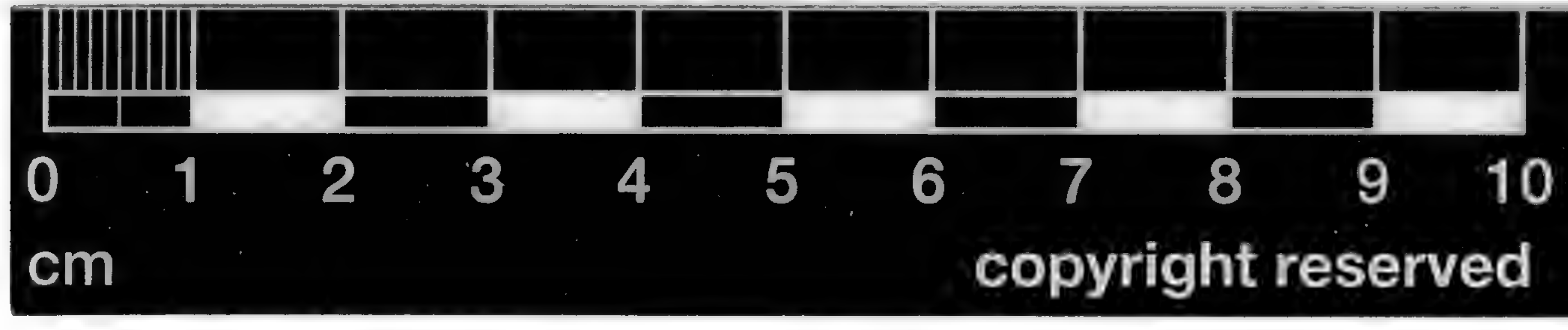
In the loose sand a few feet from the margin of the Ashley and immediately opposite Chester

I found —

No. 1. Y. filamentosa? This appears to differ from the Bluffton specimen sent you, in having leaves of a

I am inclined to think that my last specimens about which I & Prof. S. C. sent you were Yucca filamentosa from the Bluffton area. I am not sure about the soil — the others which I sent you were Yucca filamentosa from the Bluffton area.

Bluffton (the leaves of which I sent) were Yucca filamentosa from the Bluffton area. I am not sure about the soil — the others which I sent you were Yucca filamentosa from the Bluffton area.



paler green, — rougher & coarser, &
abruptly pointed. Also in having a
trunk. I found one (specimens of
the leaves sent) six inches in height
by careful measurement, — another
about 4 inches, & the rest still
shorter, & rather seeming to be
trunkless. Could see no capsules, tho'
a few old flower stalks were found
from 4 to 6 ft. These plants seem
more densely leaved than the B^m species
(hopely from the greater width of the leaves)
— some of them having a regularly
stellated appearance. Higher up in the
island they were very abundant on the
edges of the cotton fields, — all presenting
the above appearance & none of them
resembling those sent you as Y. 7!

Possibly this is the species you refer
to as growing in Aitken!

A little farther on, on a
tongue of sandy beach covered with
a few saline grasses, "pin-pillows"
(cacti) & small patches of "sea-side
oats" (*Urochloa latifolia*) I expected the

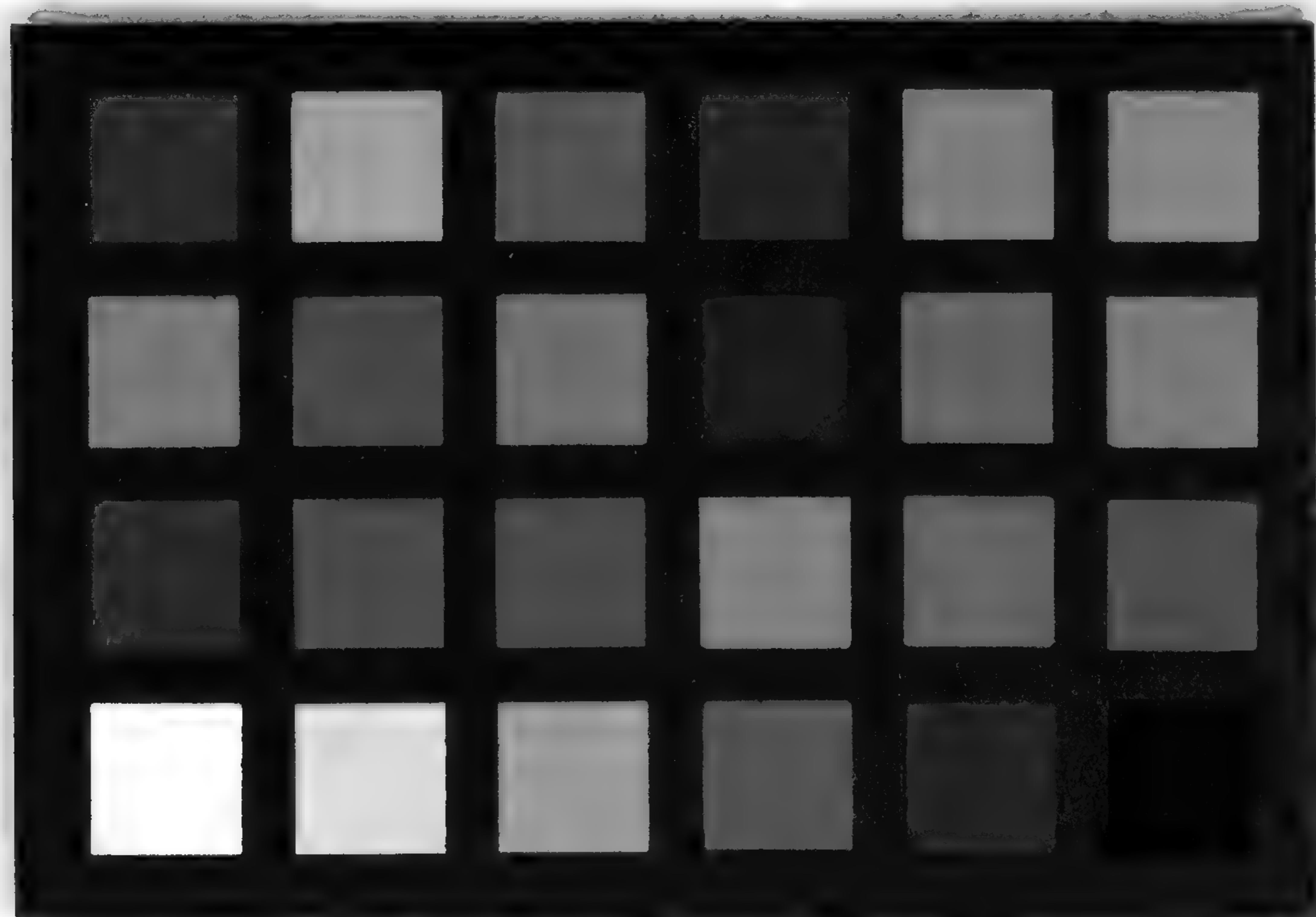


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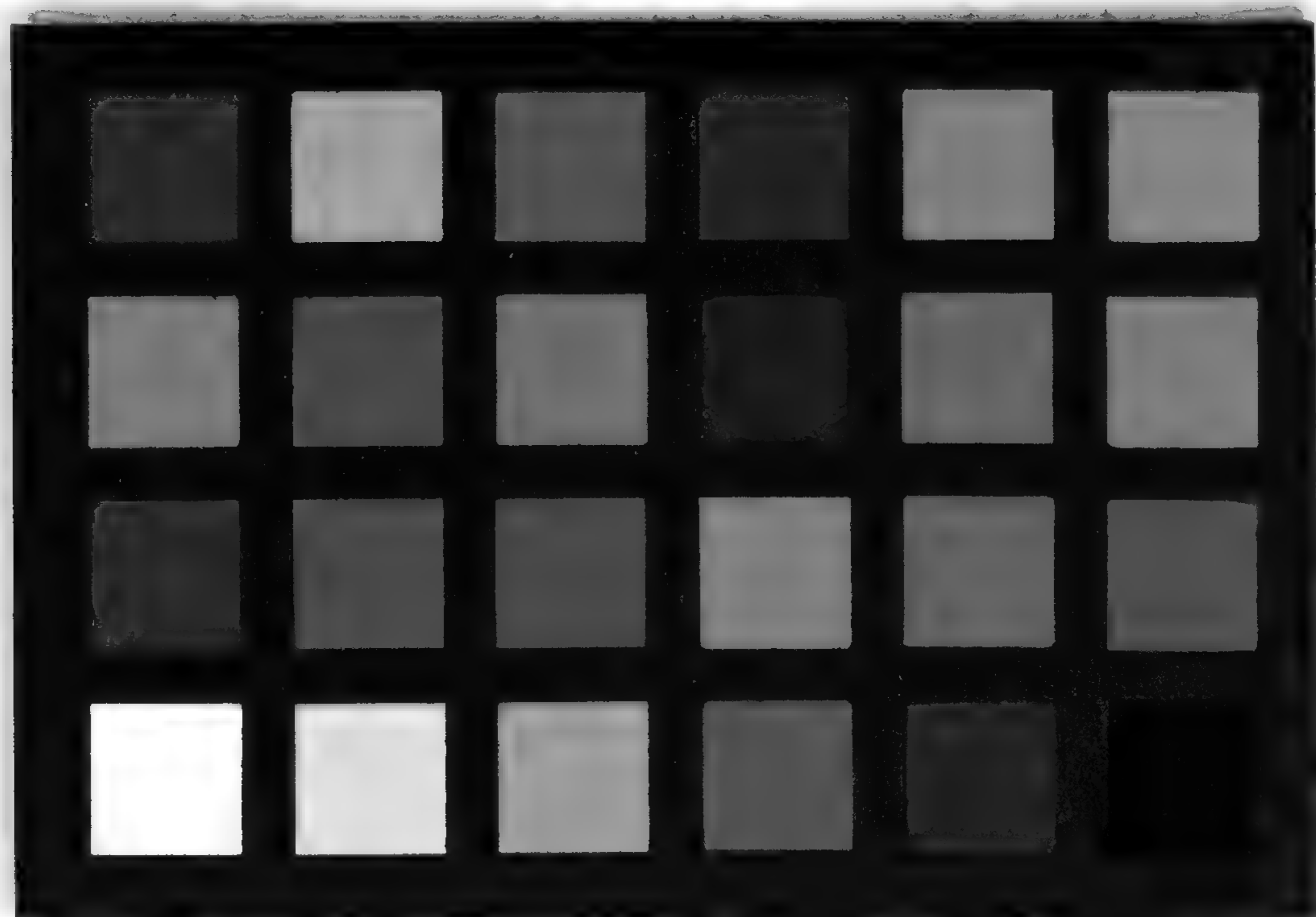
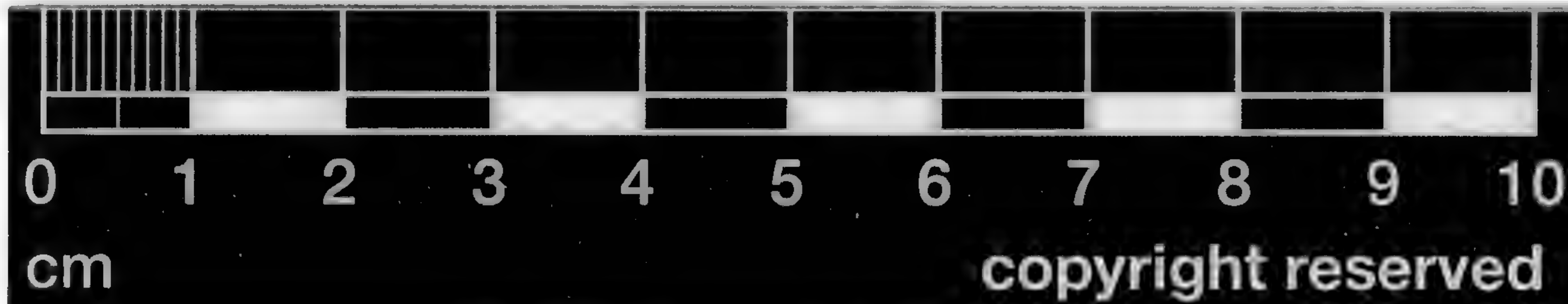
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Anything I had been so long waiting for -
112 -

11° 2 Y. gloriosa, with a flower stalk
of this year, a rather late yr, & still
not entirely dry. It was not long
before I crossed the little creek wh^{ch}
still retains the old Indian name of
Kuckawkah, - but alas no fruit!

I took 16 inches, & another plant along-
side, of about half the size, apparently growing
from the same root. Leaves rigid & erect
as formerly described (I send 2), & from
the centre of them a large flower-stalk
running up over 6 feet! - for after
cutting it out I placed it alongside of
my long-limbed cineman who is full
6 ft & it was about ^{an inch} thereabouts
taller! He said that when in flower
during the summer its appearance was
very fine, but that he had seen no
"bananas" as the negroes call the
pults fruit of Y. dracina, - which by the
way were bearing abundantly a little
farther off from the beach. Mr H's
attention never having been directed
especially to these plants he did not
tell me anything about the fruit, tho'
he was familiar evn' with that of
the dracina - he has promised
however to look out for me this yr.



and preserve (if he can find them) both
fruit & flowers of this as well as the
former, Y. F(?). The specimens of —
No 3 — Y. Staemii growing not far off
were fine, & some of them on a rich dam
on the edge of the cotton field were stout,
green & more luxuriant than any I had
seen about ^{here} — generally from 8 to 10 ft.
& for the most ^{part} regularly bipinnately at the
height of 6 or 7 ft. The leaves very long &
wide (as I formerly remarked was the
case when the soil was stony) & were
invariably curved with a kind of white
effluence (?) wh^{ch} at first I took to
be the "guano" deposit of sea-birds, or
perhaps Cranes, — but I soon discovered that
this was impossible, for the said birds
w^{ould} certainly have been imbedded on
the sharp Staemian leaves! The leaves
I again now looked as if they had been
whitewashed! Upon scraping & tasting this
deposit it seemed to be silica. Is it
not? I have, if I mistake not, read of certain
plants (Bambos as I believe) for making
a pure silica — or am I entirely mis-
taken? I had never observed it before — I
dare say because I had never looked after
them things. Specimens of this also sent,
wh^{ch} most likely is nothing new to you, but
it w^{ould} be best to allude to it.

Package sent with this note:

I shall return
Home in a week
or thereabouts.

Yours

Very truly a very
Yours

J. H. Mearns



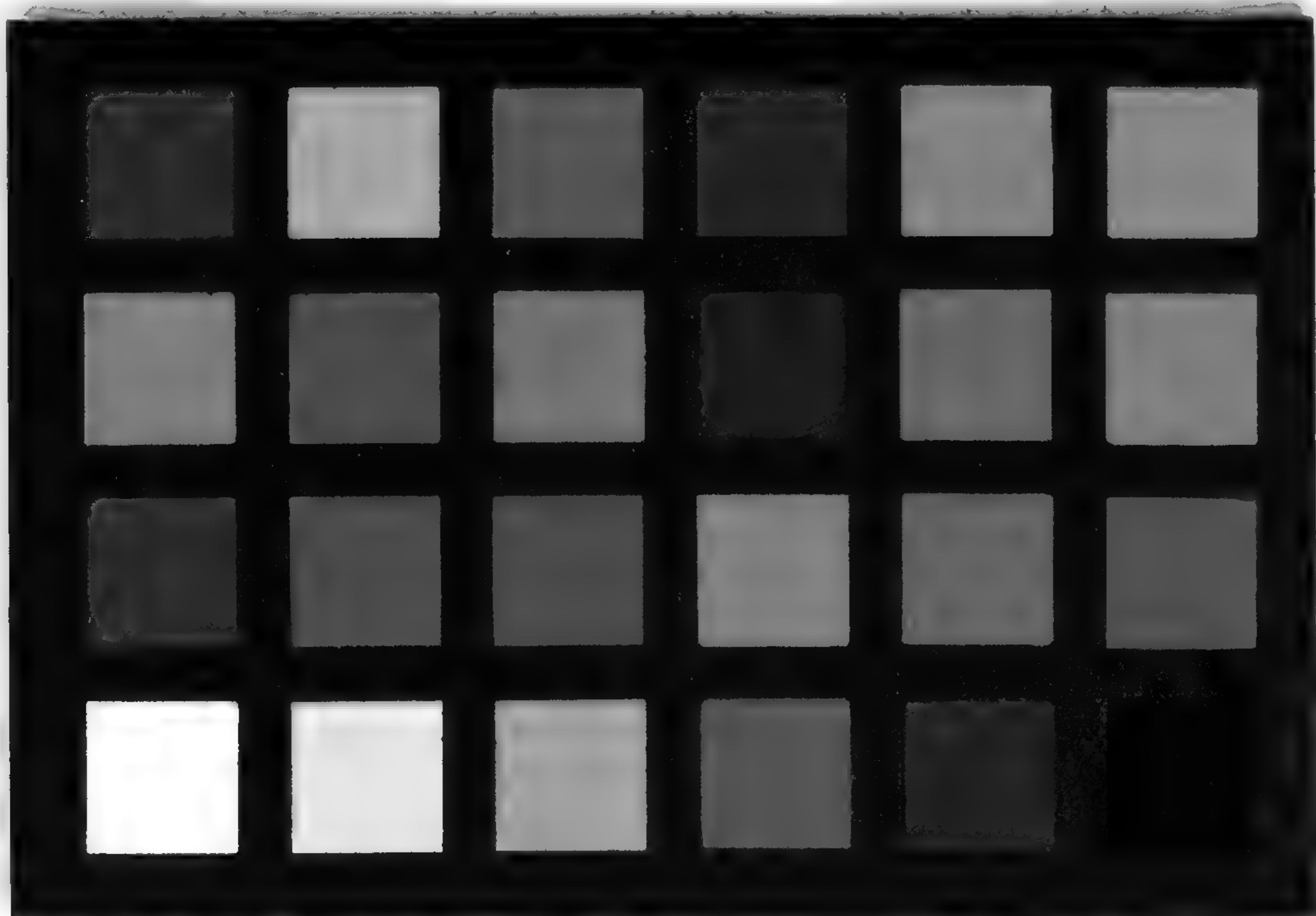
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MISSOURI
BOTANICAL
GARDEN



I am inclined to think that my last specimen

A.S. I enclose a few of N. Riv. Y. F seeds & mit^d Capsules in this letter also. Bluffton 70

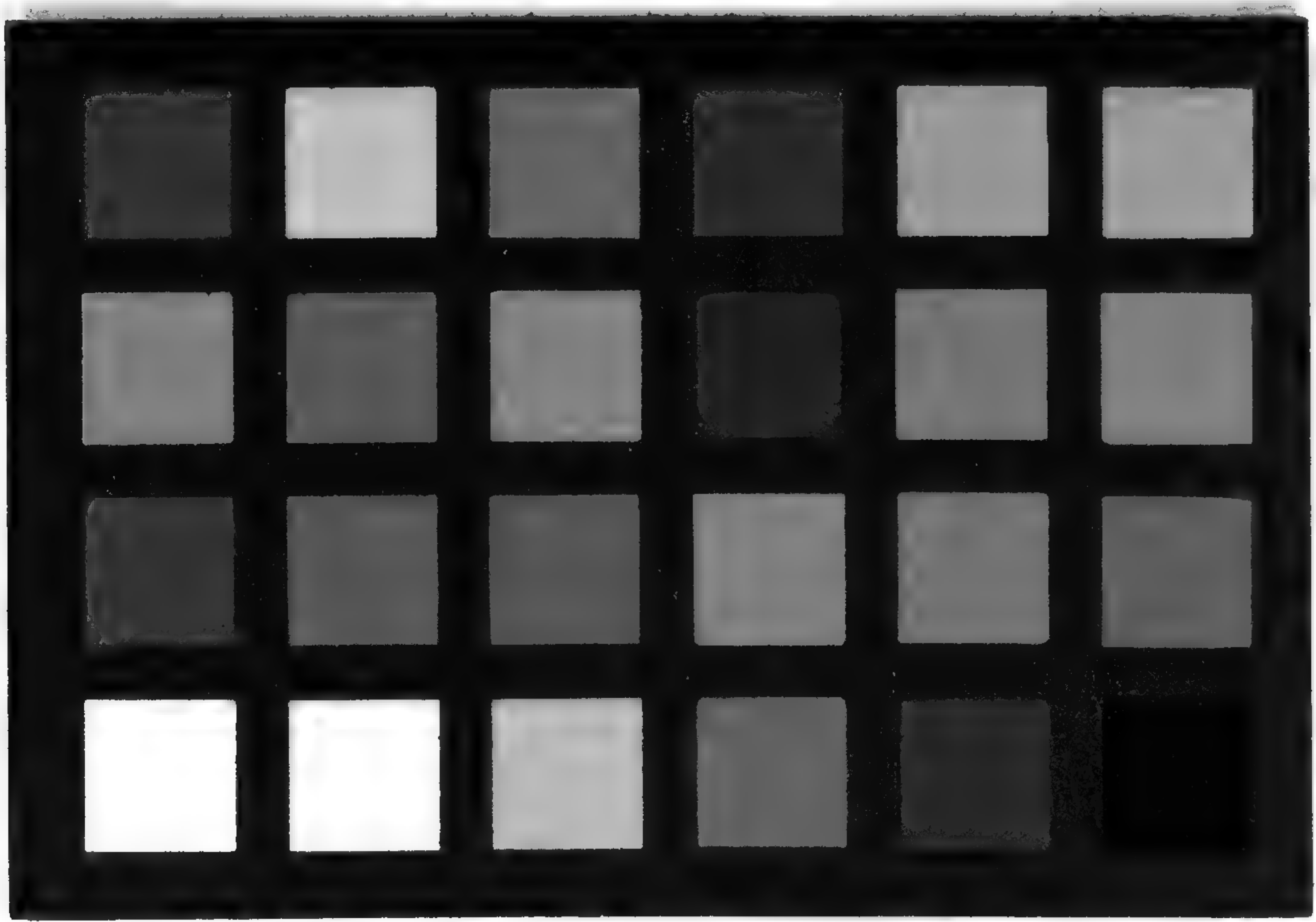
7. 26 Jan '71

Dr Geo: Engelmann -
Rec^d Febr. 13
or - 13 My D^r G^r

Your letters afforded me the sincerest pleasure, & I have to thank you very cordially for the last of 20 Jan, wh^{ch} I read a day or two since. These things be assured and not at all foreign to my tastes, & I am glad to serve you! I am however much annoyed that my 3 packages did not reach you, - the first 2 will hardly come to light, but I still have some hope of the last wh^{ch} I placed myself in the hands of a Clerk at the Ch^{icago} P.O. The others also were wrapped, stamped & mailed under my own eye here. I cannot acct for it, & yet what wonder is there when you remember that the P.O. of the South is in the hands of negroes, "Sealawags", and Yankee "Carpet-baggers"! We sh^d be only too happy if even our letters go straight! But pardon my D^r G^r for alluding to such things!

* The capsules of *M. filamentosa* (?) with seeds sent in the first package were very perfect as also the leaves from the same plant, wh^{ch}, as I remarked to you were very flat & of great length, & I regret that you did not get them. I however did retain some of the seeds (Black), & broken capsules, * from Seabrooke's - NEW RIVER.

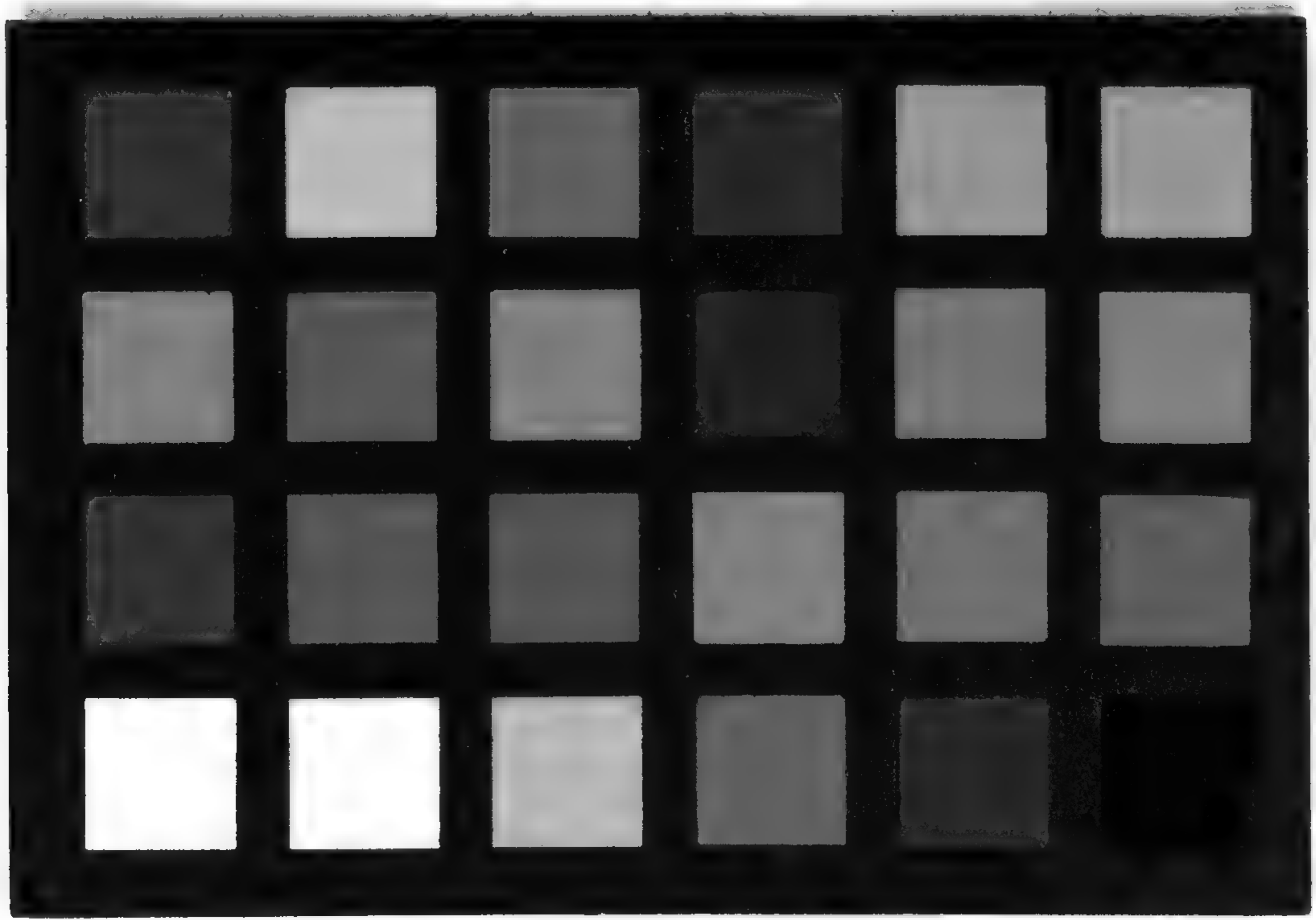
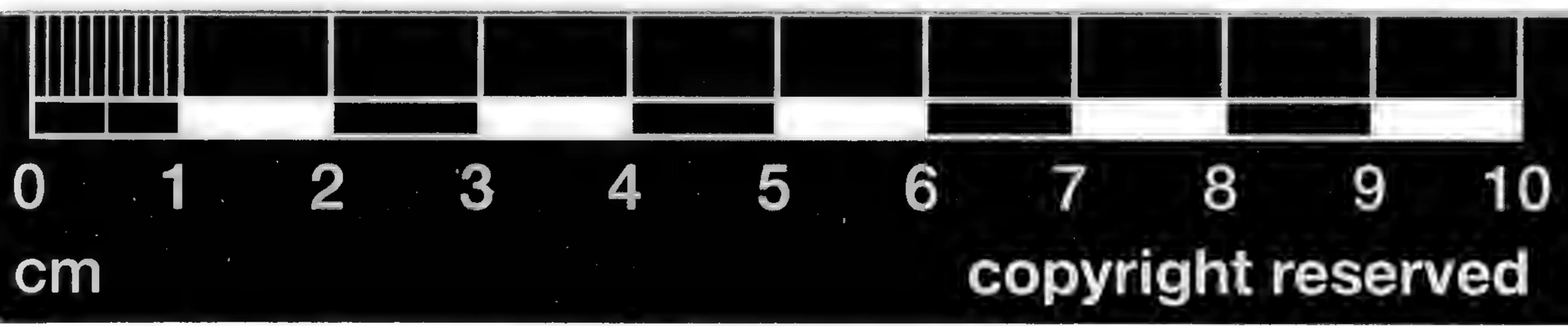
MISSOURI BOTANICAL GARDEN



quite sufficient perhaps for diagnostic purposes. Then I have enclosed in a little box sent by mail with this letter, & mailed as a letter, so as to be sure of yr getting them, - it contains also a few seeds of Agave v. Pinckneya. The former from unusually large plants wh^{ch} reminded me very much of the Yucca. The gentleman who sent me the above Yucca seeds & leaves from New River, promised me to dig up the whole plant & send it to me, as it was growing in his corn field & ^{he} was ^{to} plant it all up. But I have not yet seen it! I imagine it is the same wh^{ch} grows immediately about me here, - perhaps only a more luxuriant specimen, & very different I conclude from the James Island Y. 7 wh^{ch} also I sent, & wh^{ch} it is to be hoped you have recd^d by this time. Please let me know if the last from Chester has not come to hand, - if this be so, I shall get my relative to procure other specimens for you. I have no doubt that this last corresponds with yr Antenn plant, wh^{ch} has a trunk, (I saw only two however with trunks) & with leaves spoon-shaped, - pinnate, & of a pale green than the Y. f. up here. Undoubtedly these two would strike the most casual observer as being different! - strange that I did not see them both growing side by side on James Is^l, for the soil there is pretty much the same as it is here, - nor on the other hand have I ever met with the Jas Is^l Y. 7 here. I send also in the box a few seeds of a Y. 7 (?) with portions of leaf, from the middle country of this state - Orangeburg Co. - between the two forks of the Edisto.

Enclosed in this letter

MISSOURI BOTANICAL GARDEN



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

We happened to "refugee" them as the phrase was during the war, & there I remember seeing a yucca wh. I called filamentosa, tho' I believe I only admired it, yet never examined it. I was anxious to compare it myself with that about here, as well as send it to you; so some weeks since I wrote one of my old friends of the "Dutch Fork", - (a shrewd & observing man, tho' & himself illiterate) desiring him to examine these plants & send me leaves, capsules, & seeds if he could find them, & at the same time tell me whether it had a trunk. I sent him drawings &c so as to be sure of his understanding me. I soon recd a very obliging letter from my old neighbour wh. gave me the information I requested, - also 3 leaves wh. I send, & the few seeds he picked up. These last are certainly very diff^t from the black seed of the New York specimen. Are they indeed yucca seeds? - possibly you will recognize them as akin to the Citreus plant. As for the leaves they are small & mutilated, with the tip cut off, so that I cannot say whether they ~~do~~ resemble the "Stiles P¹" I as I call plant - or not. They are however similar in having coarse filaments, & in being rough, but they are vastly smaller & narrower. But you will one of these days be able I trust to determine for yourself! I enclose also the Countryman's sketch (I think he beats me as a draughtsman!!) as also his notes. He says it is trunkless about him!

As for the y. gloriosa of "Stiles P¹" I as I do the flower stalk was big & strong & strong & strong to have borne the weight of any no. of

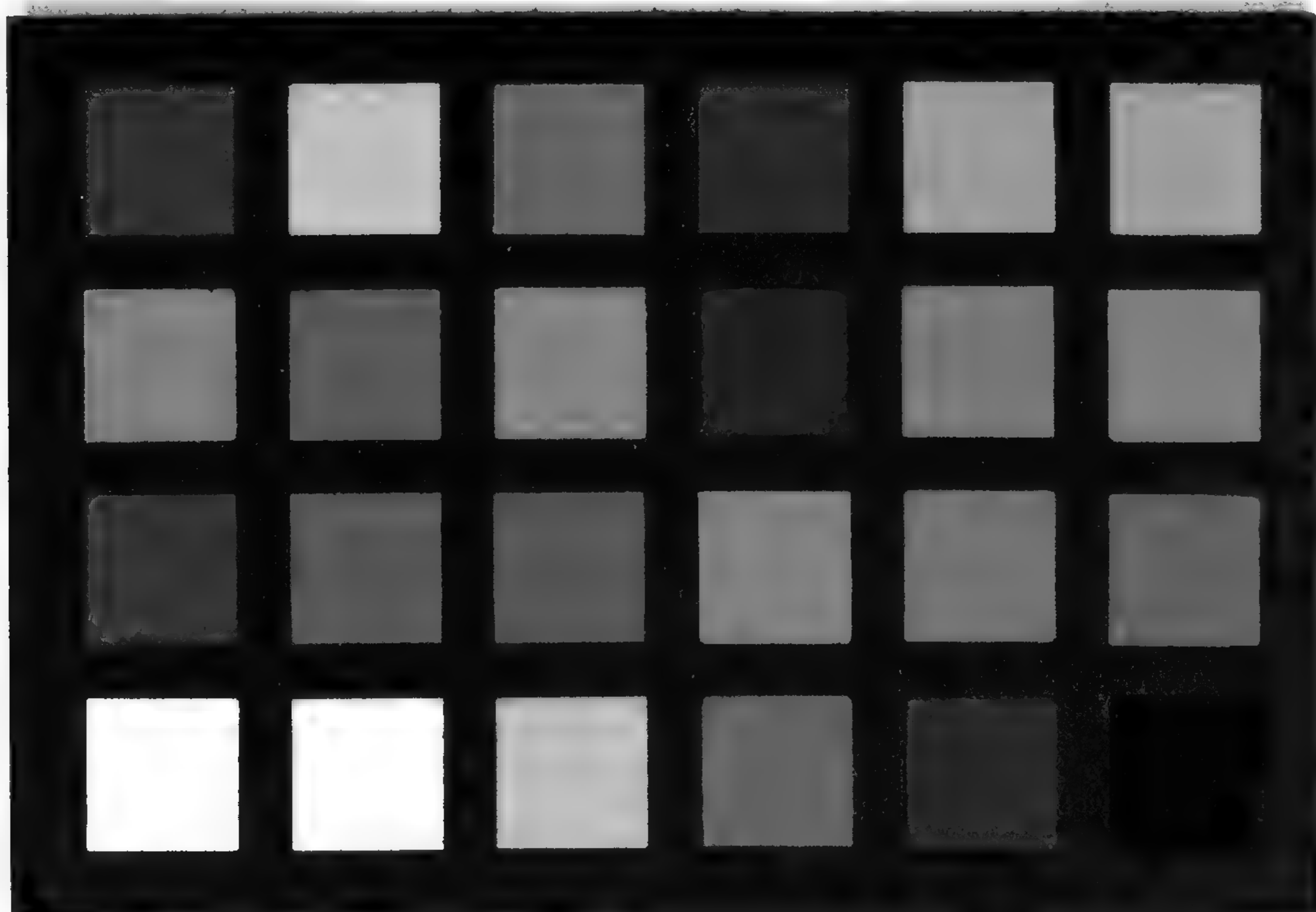


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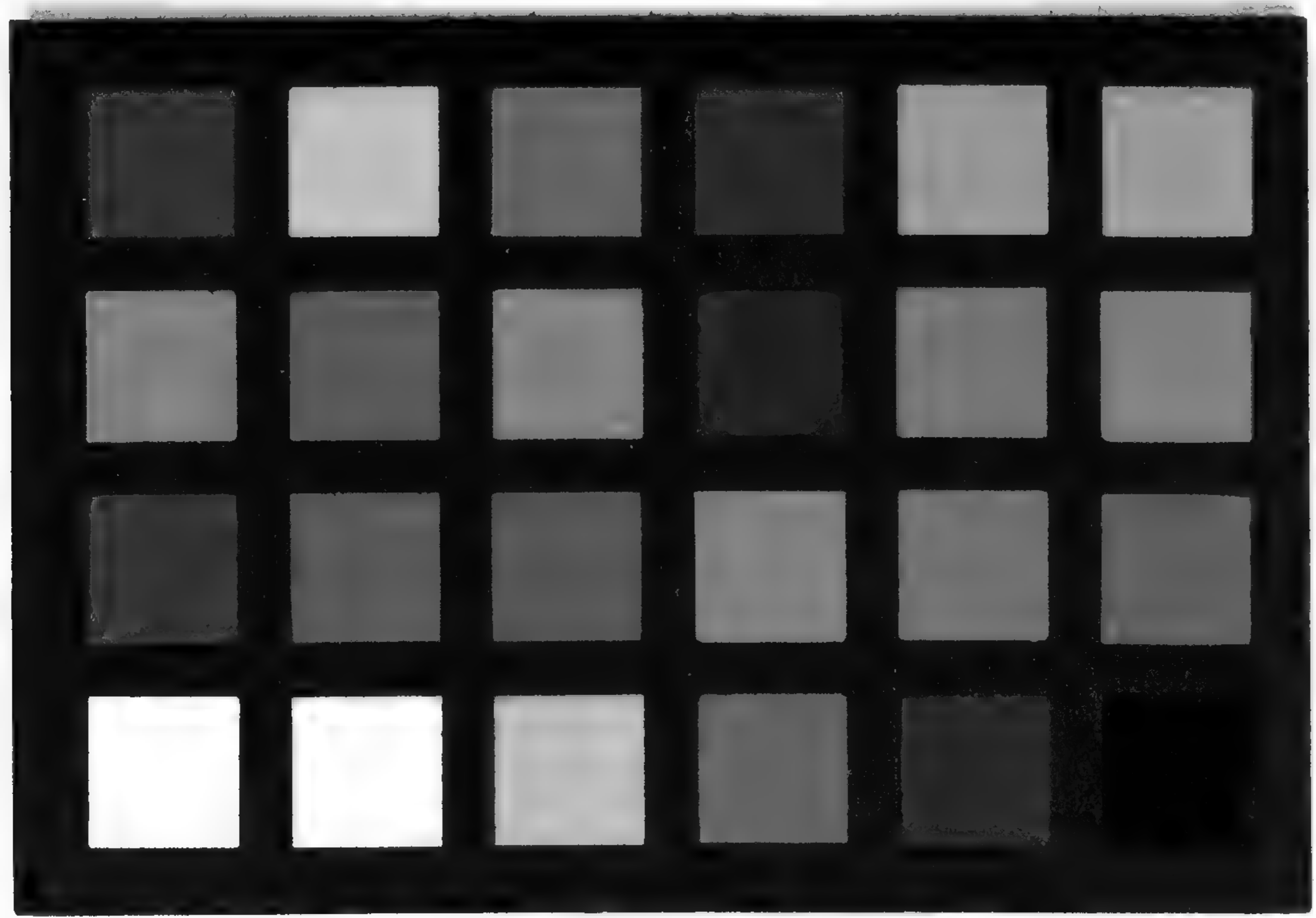
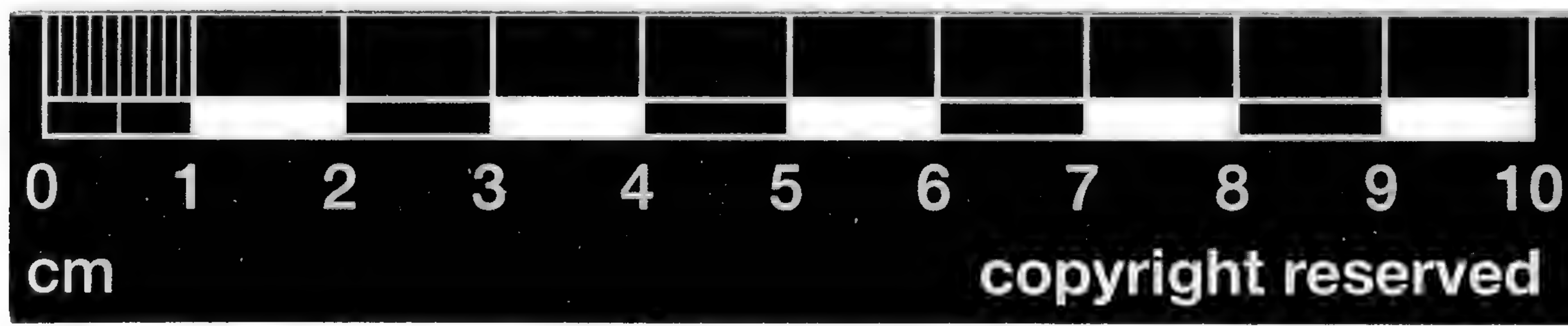


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"bananas". I think Cain might have done
his work of blood very faithfully if armed. (4)
even with such a club as this, - especially
too if he had cut his green green! It
seemed to me almost gigantic compared with
those dried flower stalks on May River Bluff
of wh I wrote you. But then the "Stiles
Ph" specimen was growing along on the
little beach, with room eno' to bourse or
to bloom" after its own fashion, & absorb all
that it ~~could~~ ~~from~~ from the subtle in-
fluences of sea, & sky, & earth, - and it
maybe many a day before I see anything
of good grain! I sent you some 6 or 8
inches of the "little". I am pretty well
satisfied now that the plants of wh I
wrote you as having been found on the
Bluff of May River - are only *Y. gloriosa* as
I suspected, & I see how my South originator
wh I must immediately explain, for unintentionally
I may have misled you. These last are only
the wild plants growing perhaps in an un-
favorable situation, the 3 others in the old
garden of wh I sent you leaves & wh you
read, are evidently from some cultivated variety.
I believe in my first letter I remarked that
I knew of but 3 or 4 plants about here, referring
to them in an old garden; - I had supposed that
they had been taken from along the beach
on Hilton Head, or Daufuskie Is^{ls}, - about
10 miles from here; when I knew these things
grew. Never having examined any of the species
with anything like care (altho' I knew them all
roughly) I concluded that the garden plants wh I
described & drew for you were the wild or native
Y. gloriosa! But not so, it appears! After an
examination of them I knew to be native or what
I thought to be such I wrote to the old i-

MISSOURI BOTANICAL GARDEN



Rec Feb 7 1871

Gentleman who had nursed & planted this spot (5) many years ago, asking him — "were these gloriosas from the beach, or from some garden of the cities?" He replies that he purchased them ~~from~~ ⁱⁿ Augusta Ga & that he had never seen them fruit altho' they had bloomed often! So you see how I committed the error — in taking things for granted! There is but little difference however between the "Stiles Pl" J. G. gloriosa & these garden — Augusta plants, except that the latter are stouter & taller, & perhaps rather more densely leaved! I shan't take things for granted again I can promise you & you must pardon me for this time! If you fail in getting the Jar Id specimens I will send you leaves of the native Y. f. as well as other fruit of the *bracensis* if you still desire it. But what to do with the mails — it seems they fail to carry them? —

As for the Cactus "pin-pillow", no one that ever I saw or asked had ~~seen~~ seen it bloom —! This I had heard of ago when a boy, often having heard the question put, but no one had ever answered "yes!" My relative on J. Id who is a man of much observation told me that he had never seen it bloom, nor had he ever seen anyone who had. How is this? and yet they multiply themselves largely; of course I am aware that they easily transplant themselves, & that an old leaf (I was going to say — but not now since your kind explanation) or joint, would reproduce itself, but I conclude this is not their only mode, but that seeds may be carried by birds. Be this as it may I do not

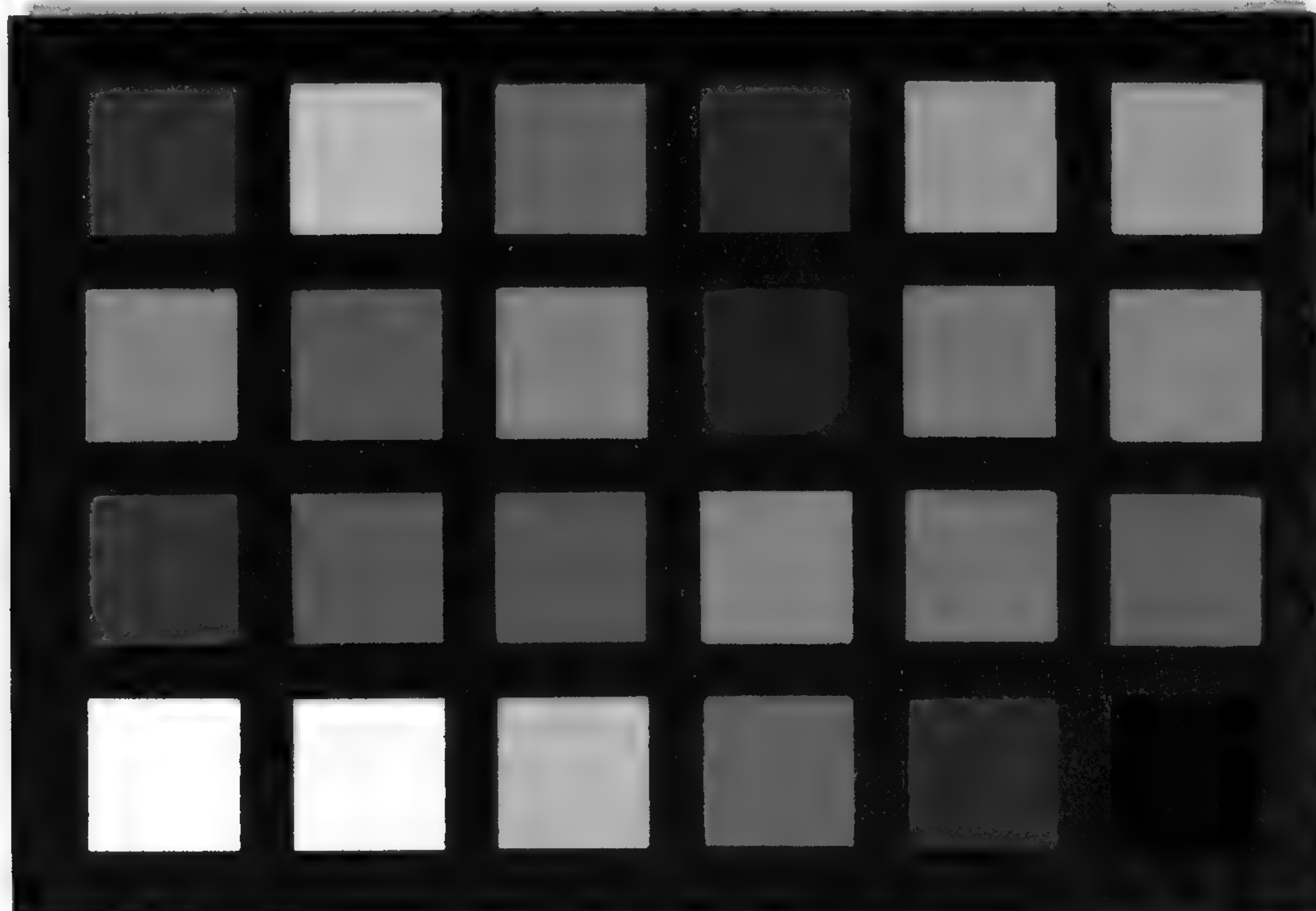


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know the flower, whether it be pink, or
yellow, blue, black or green;— altho' I did
see the fruit when on the isle (23) the 10th day.
All along the Achly on San I'd there
an ~~immense~~ abundance a mass of interwoven
re wh^{ch} we threw up during the war, all
of wh^{ch} were beautifully faced with salt-mud,
or turf, from the neighboring shore or creeks.
This turf is now partially decomposed & mixed
with the loose sand, & in this I observed
the Cactus growing, forming a perfect mat-
-work or carpeting on the ~~st~~ slope of
the traverse rd. In this situation the
"pear pillars" seemed rather flattened & more
luxuriant, ~~but I imagine~~ than when
growing in the barren land of the sand-
-hills, wh^{ch} I believe they were the same.
& it was here I saw one "pear", but
no flower of course. Possibly your work on
the Caetacea wh^{ch} I trust will come to hand
in a few days will enlighten me as to
some points. Let me thank you again
myself for your kindness & courtesy.
If the book escapes the sooty fingers
of the P.O. Officials, or rather the itching
palms of the Puritans (who like books
an among us), I know I shall read it
with int^{erest}, & shall value it not a little.
As for the intermediate variety I think
it is about 100 generally prostrate, but
occasionally perhaps semi-erect, but I
~~set~~ answer with no certainty. It is
can however be very easily determined.

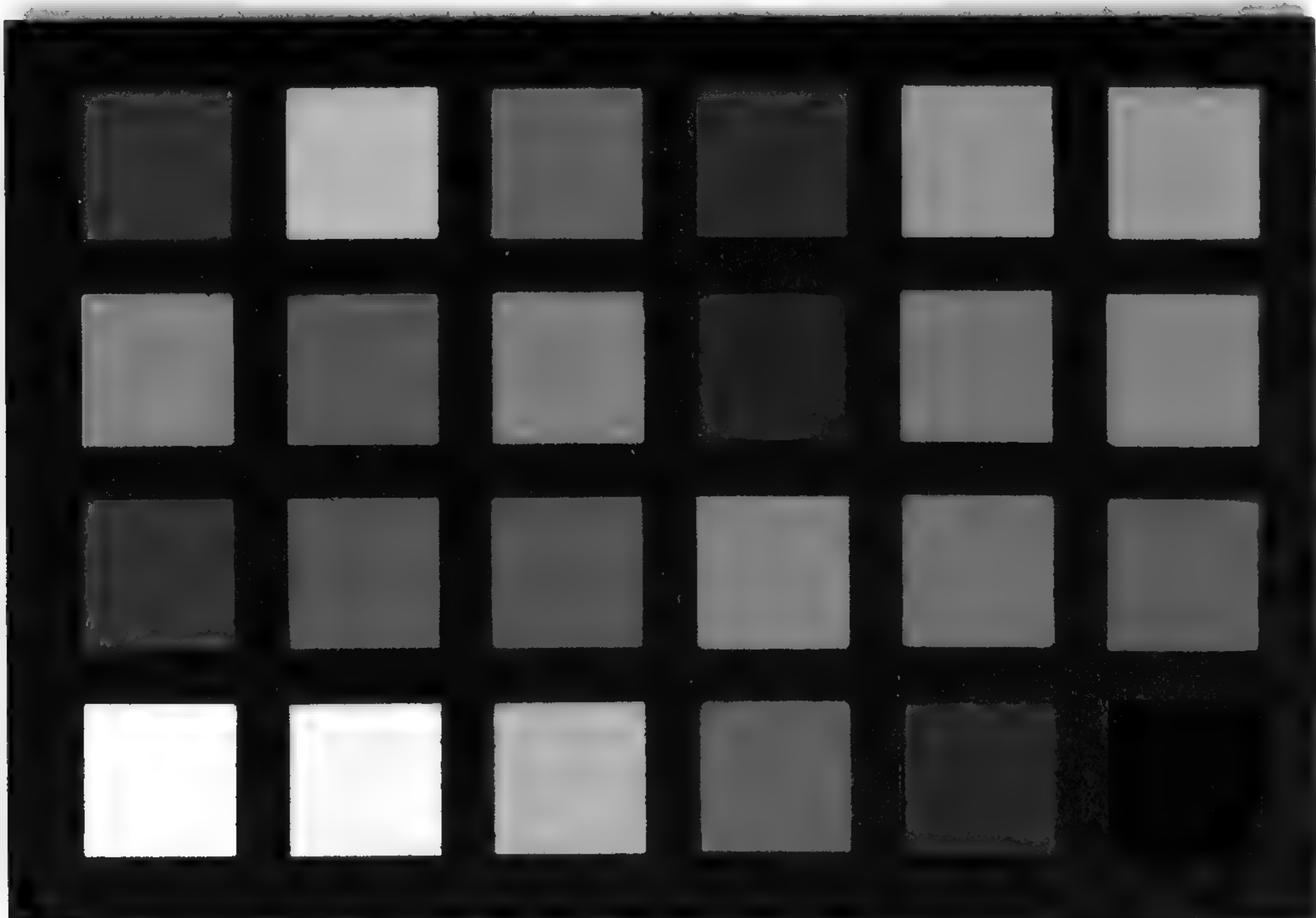


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I am curious to know what you will make of the effluence on the *Baccharis* leaves. I do not think it was Saline, I tasted it; it was not salt - it was rather like pondered flint.

I have never seen *Urnula Latifolia*, it was a mistake of mine, - it was not even ignorance: I repeat of course to U. Paris.

What you tell me of the water Chenopodium (Nebent) is all new to me & very interesting. I had never even heard of the tubers, nor of them being edible - ~~the only~~ the only thing edible about them I supposed to be the nuts, which, I remember my father told me he used to eat (crushed I believe) when a boy. Perhaps one of the most beautiful sights I ever witnessed was a large sheet of water back of a river-ford, with hundreds of these flowers in bloom with their stems & water lilies interlaced, the roots & water lilies as ducking & diving under the enormous leaves. A sight not easily forgotten!

As for the cold spell about Christmas, - it was bitter indeed! - the "Oldest inhabitant" referred to I come to the winter of

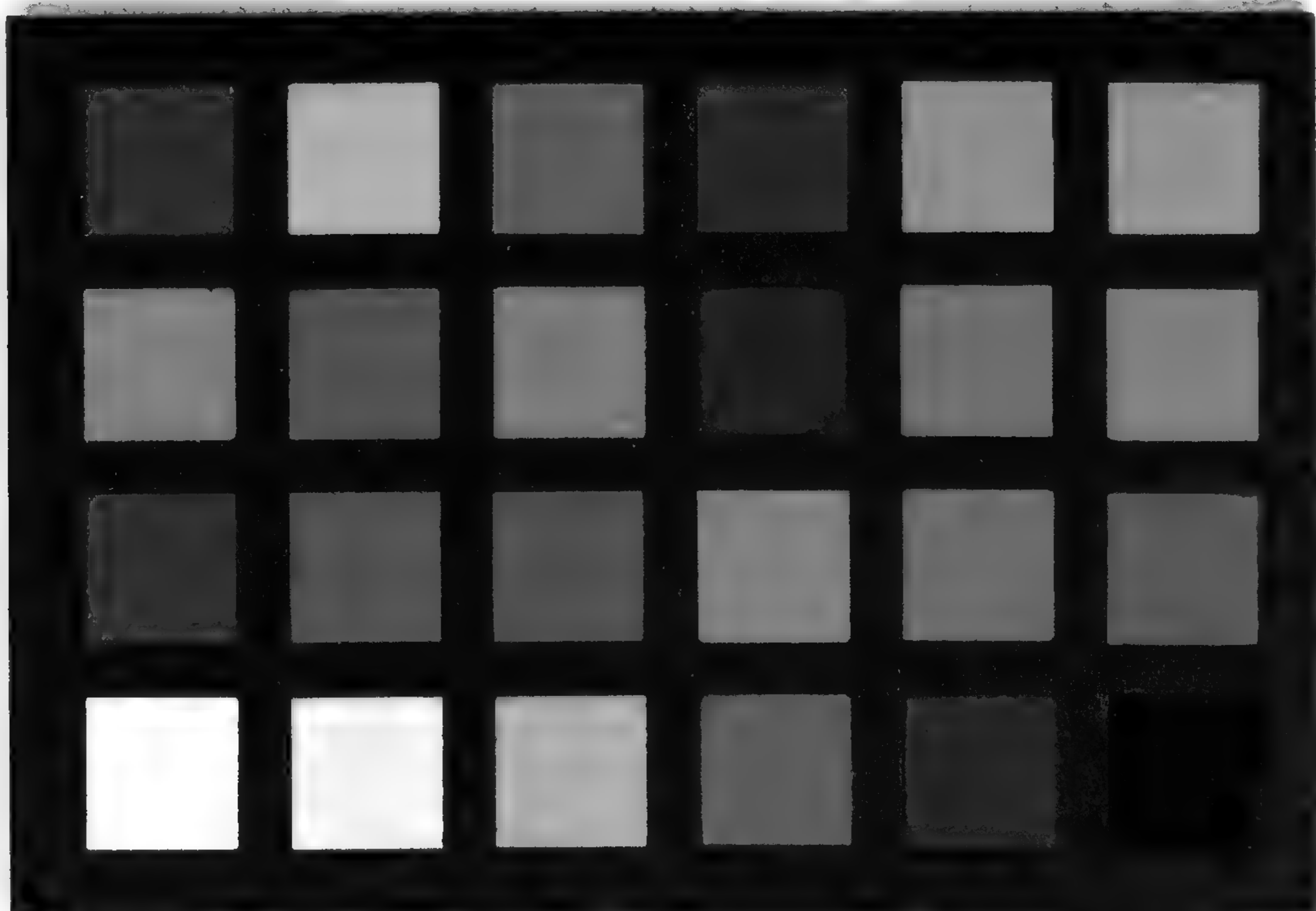


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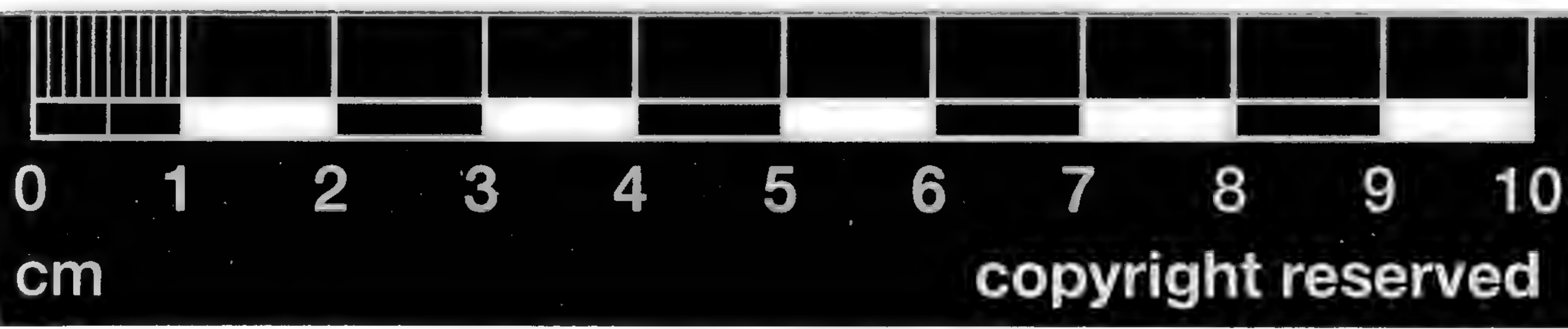
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1835! at wh^{ch} time he informed me that
the Cabbages of the large Palmetto - is - the
heart wh^{ch} we eat, & wh^{ch} is hardy equalled
any vegetable, - were all frozen, so that
the trees died by hundreds. This on
Edwards' Bay - Edisto Isld. The statement
seemed very astounding, but I do not see
why I should doubt my informant. Certainly
it did not happen here. this winter, tho'
I'd never felt any cold like it in the
Low Country before. In a warm room
close & curled - urine near the fire
froze - a thing I never saw near
Salt water before, ~~in the~~ "up the country"
this wd. not be remarkable. All
of the Orange trees about here seem to have
been killed & the same thing I observed
along the streets of Charleston & also on
James Isld. Possibly the trees are not
as badly hurt as has been supposed.

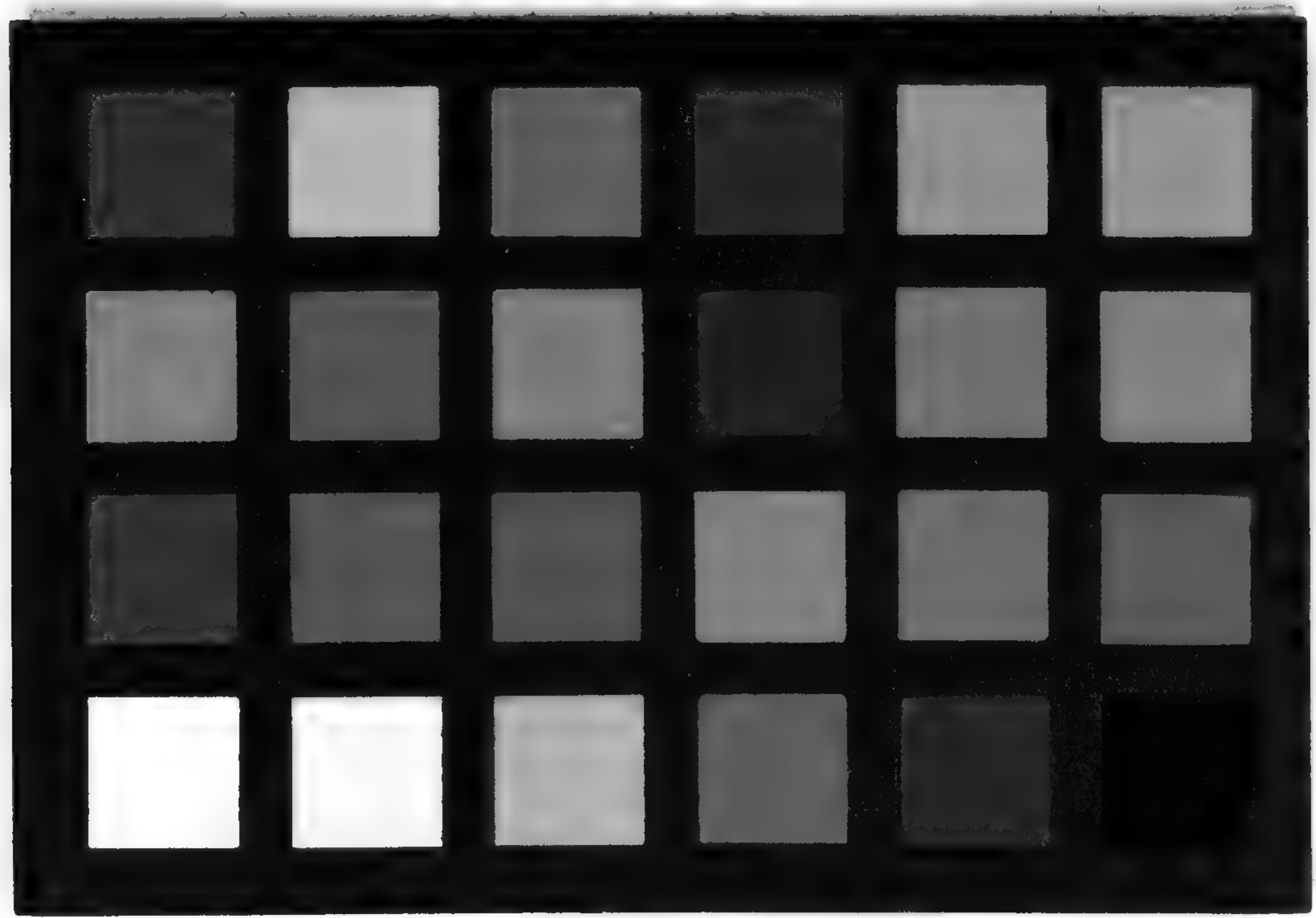
I find my self that I am running
on in the family of an octogenarian;
in future I shall endeavor to
condense so as not to "tarry" you
as the negroes say with my much
talking. Let me conclude by re-
-marking that all that you say
in ref- to the terrible struggle in
Europe I feel to be only too true.
& with thanks for yr country
I cannot find I am very truly & respectfully
yours
G. Engelman
my fingers y. of flowers
to last summer

GEORGE ENGELMANN PAPERS



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Recd Feb 7 1871.

1871

GEORGE ENGELMANN

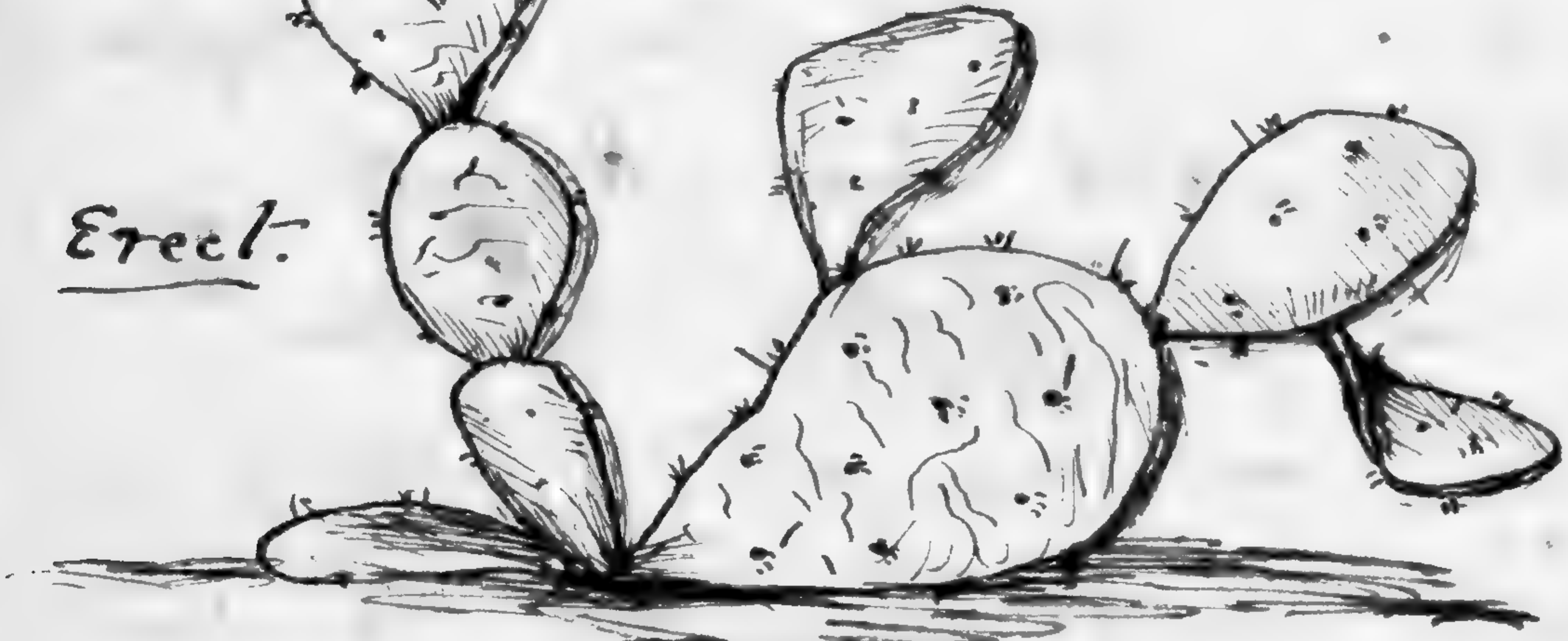
I have opened this package for the purpose of adding one or two Capsules & seeds of the *Y. filamentosa* found quite near me on Salt water, so that you might have two specimens (the other from New River) to compare with the other *Y. f.* I remarked to you in my first letter that our *Y. filamentosa* just about here, so far as I had observed, had no trunk, but undoubtedly this plant from which I have taken seeds & capsules did have a trunk & stout end top, of about 4 inches, or very nearly! I send also a leaf, the flower stalk was full 8 feet.

I found quite a "patch" of these plants growing in an old sandy field several of which had trunks, tho' not quite as high as this - from 2 to 3 inches.

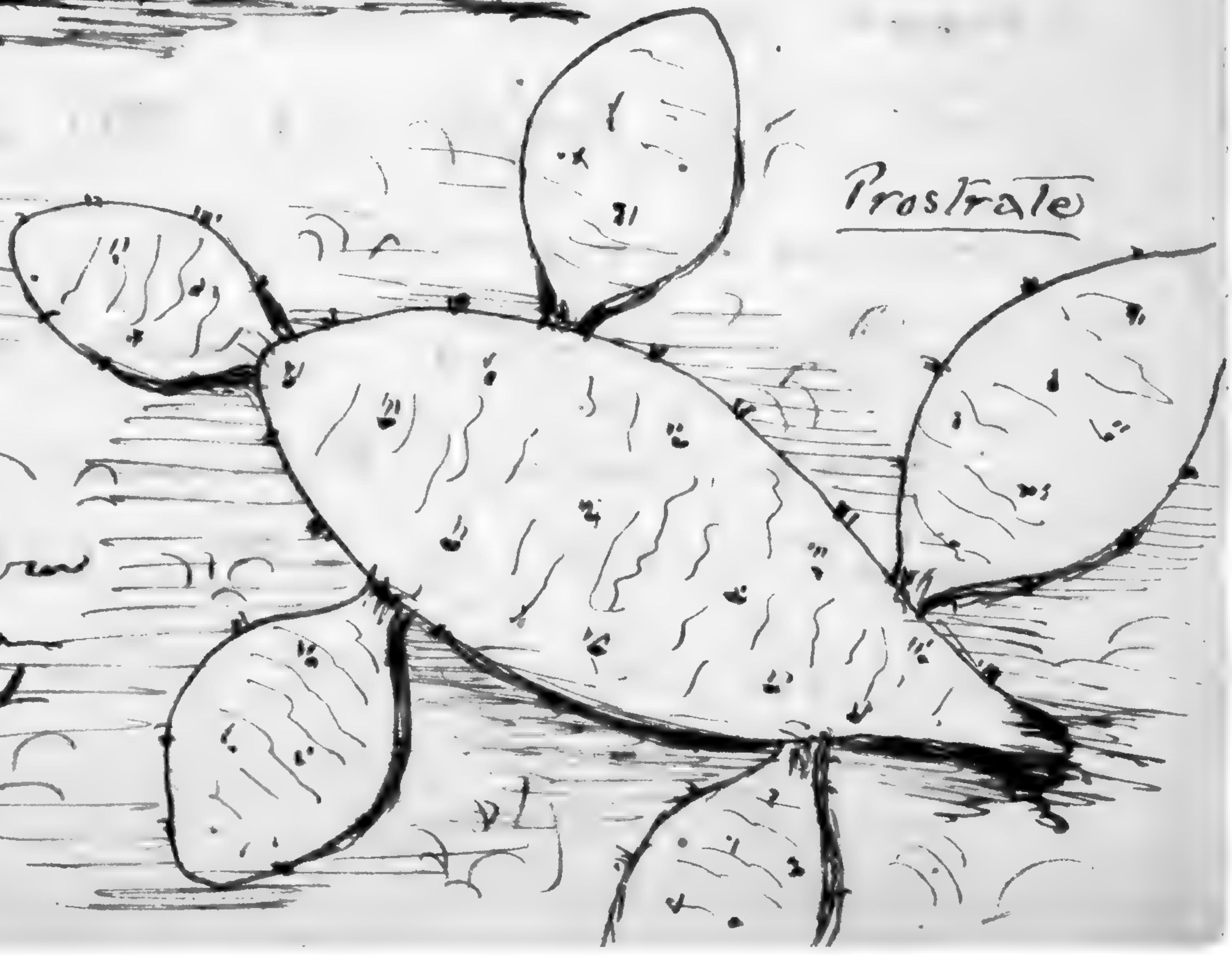
The Cactus about here also I have since examined & send two "pear" one of which had taken root. This is very diff. from the beautiful plant of which I wrote you & which



It is supposed the Spaniards may
 have carried them from St. Augustine.
 You will find a half or two thirds
 of all the plants prostrate, but
 numbers also semi-erect or erect.
 I refer to the stem, or fruit joint
 or articulation which comes out of the
 earth. Indeed, I think I ought to
 say that ^{erect} as many are found erect
 as prostrate! The joints are mostly
 wrinkled & but few spines. Here is a
 picture as Peter Parley used to tell me
 when a boy - Here is a picture
 (from nature!) of this Cactus erect
 & prostrate! -



Erect.



Prostrate

This is not
 intended for a
 representation of
 the tentacles of our
 coast - *Chelonia*
mydas! - but
 a - Cactus!!

MISSOURI BOTANICAL GARDEN
 GEORGE ENGELMANN PAPERS

Recd - Febr 17
ans March 3

Bluffton 70

11. Feb '71

70 -

Dr Geo. Engelmann

my dear Sir,

Fearing that possibly my
letter & box with seed specimens
of the Newbie 7. f. & also from the
immediate neighborhood may have
skipped the gate of the States sent -
I send you capsule & seed of y. f.
from a sandy field (Hunting New)
near here - trunks from 1 to 2
inches to 4 inches in height. Have
stalk from 4 to 9 feet.

Send you also with a
leaf from the Newbie 7. f. of which
seems so right from this (as I
before mentioned) I can
procure it from friends there.
That the y. f. about in seed had
found with a trunk is new
to me, but there is an old
about it! The look why
you expected to send on the ground



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has I expect to get it
arrived. Take care it does
not absorb the water chief of
some pins Carpet bagged from
N. East. also found

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C. D. Pringle
←

V. S.
I enclose also *Lycium Martianum* -
a *Podostemum Puberulum* - These
plants, i.e. the Asclepiadaceae
are "my pets" - not that I
know anything about them
botanically, but they flourish
from a beautiful place in
my garden rather than a "stranger"
from this family than any
other. Last summer I
met with the *Cuscuta Linifolia*
near the old town of Purgatory
for the first time. The seeds I
sent you in the 25 or 30 parcel
but you never saw them!



rec' mark 3^d
and 10th

2

Bluffton

St. Luke's P. H. S.

25 Feb 71

To -

D. Geo. Engelmann

my dear

Your last letter informing
me of the safe arrival of the
specimens sent I read in due
time, & I write now to say
that your work has not yet
come to hand! I fear that
I now must give it up "for
good" & I regret it much -
possibly I may get so some-
thing in the matter of writing
to the J. M. in Chicago, which I
intend to do. In my last
note sent a mail or two
back I enclosed a last
specimen of *Z. filamentosa* from
"Hunting Is." which has a large
& well formed capsule like

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GEORGE ENGELMANN PAPERS



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that from New River (Leaborn's). I conclude that those sent in the little box were imperfect, tho' the plants themselves were fine, having a trunk & tall flower stalks. I think I shall without doubt succeed in procuring flowers for you this summer wh. I conclude will suit all of N. Davis's! As for the Gas 9th Stiles 9th plant wh. you say is the true Y. f. —, it certainly is diff. from the Y. f. about me here & I find none of them here after diligent search. Possibly the flower wh. Mr. Barnwell sent you from Aiken is the one I sent him last summer, for if I am not very much mistaken I did send him one. I have not seen any plants of the Y. Stacnis having that efflorescence except on Gas 9th — certainly I have not observed it here, — curious is it not?

I enclose specimen of *Schistes Diffusum* wh. possibly does not grow about you. The long ped. & seeds I have never been able to find.


Yours ever
 E. H. Merriam

P.S. Possibly my backwardness → friend thought that one seed was as good as another — or perhaps for the humor of the thing he would see if it were possible to catch one napping! I was doubtful of it myself, as I believed I asked you if there were indeed the Y. f. seeds but being ignorant rather of these things I thought as the plants diff. so might the seeds. Let me say that N. Davis affords me great pleasure, but I would not have you waste N. Davis's time in answering every note from an "outsider" like myself — but should you really have leisure I shall be too glad to hear from you — meantime it will always afford me the greatest pleasure if I can help you!



Dr Cupflor March 14th 1871

Yucca filamentosa

- *
 11^o 3 - The fragment of capsules sent before
 * also from Saltwater - Hunting Beach -
 belongs here, but most of the cap-
 sules were defective - or at least had
 a peculiar shape, somewhat compressed
 in the center if I mistake not - as
 thus ; Others from same place were perfect.
 11^o 4, from "sandy soil on edge of cotton
 field" I consider the same as 11^o 3.
 11^o 5. "From Seaboard, New River". This also
 I suppose to be the same, tho' I've seen
 nothing more of the plant - not sent me
 as promised!
 11^o 6. The two leaves marked "y f?"
 are the same as 11^o 5 - taken from
 the same plant, - at least, so I was
 informed by the gentleman who procured
 them for me. I don't think either 11^o
 5 or 6 had fibres - the last I conclude
 were taken from the lowest leaves, -
 probably the fibres had become detached
 by age. I do not doubt but that
 they came from same plant!
 As to the Y. filamentosa etc etc -

*
Mostly these had a handle
as near to me as here!



- curing ^{"y. Fil^a"} without fibres I cannot say. (2)
I & perhaps Thompson the same opinion as at
first - that altho' there may be certain
variations ⁱⁿ ~~in~~ the y. f. about me,
yet are they all one! Differences in
soil &c I think will account for these
variations, wh^{ch} after all seem very slight,
& apparently ^{the plants?} differ but little from the y. f.
wh^{ch} you have just sent me.

But I cannot say this for the "Stiles
P^h" plant! - That seems to me very
diff^{erent} with us to form a texture & colour.
The flowers this season if I can get them
will decide.

"Queen of the Meadow"

All of them 110! 1, 2, 3, 4 I think the
same, tho' they vary somewhat, but for
110 6 I am doubtful. I refer to those
marked X "not rough, not haired, nor
denticulate but smooth & flexible" & growing
together in a clump in a "brown grass
field". Examined them again today &
send specimens in a package of pins by
the mail. Possibly y. filamentosa without
fibres - who knows?

"y. laevis"

All the same, save for the efflo-
rescence!

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



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Bluffton 70

17. mch '71

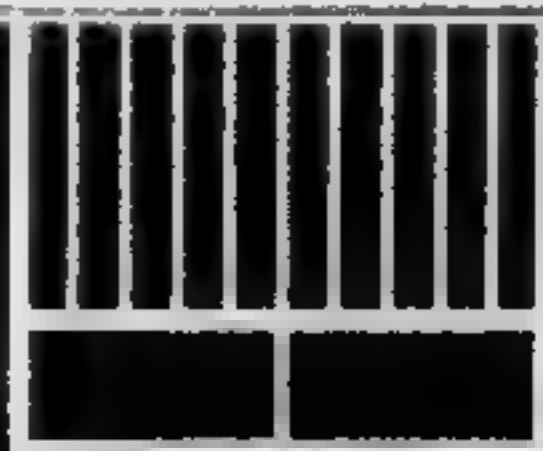
Dr. Geo. Engelmann

My dear Sir,

I was greatly re-
-lighted & ready to get yr letter
of 10 mch announcing that
my "unknown Pine" was a
new & good species, & I am
more than compensated for
any little trouble the collection
& of the specimens occasioned
me - by your satisfaction &
enthusiasm in the matter!

I am sure I am very
glad thus to assist you &
to contribute in my small
way to the furtherance of Bo-
-tanical knowledge!

Whether this pine however
is indeed Elliott's *Heterophyllum*
(of which he gives so compact an
account) or, on the other hand
his *P. Bigida* (with by the way



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Chapman does not state to be found in the Low Country of S. C. (or Ga.) — is — still a question! As regard Heterophyllum, Elliott speaks of its being found near the mouths of freshwater rivers, whereas this is a saltwater region, tho' it is indeed common about Hardenville on the Ches. & Sav. R. R. — 17 miles from here, & that place is not over six miles from the Sav. River. Also, that the leaves are indiscriminately mingled } twos & threes even on the old branches, — wh. I think may be correct, tho' about me the leaves are almost always } by twos. This indeed with the very early dropping of the cones & their conspicuous beauty on the trees — (of a rich brown colour) was the first thing that struck me last Fall! Also, the "sterile flowers at the summit of the branches" & the excessive discharge

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of pollen! — certainly ³ more so
 than any other pine. Bark as
 smooth as that of *P. Palustris* (aus^s)
 but in longer scales" — This also
 is I think very marked. But
 then on the other hand what tree
 do we have in mind when de-
 scribing *P. Rigida*? — for apparently
 this is not found in the low
 country of SC or GA? You speak
 of the resemblance of this pine
 to *P. Australis* & especially refer
 to the terminal female ants,
 but is not this the case
 with the young trees of *P. Tada*?
 — or, from my ignorance &
 inexperience in such matters
 have I failed to catch your
 meaning? I enclose female
 ants of *P. Australis*, *P. Tada*
 (young tree) & the "unknown
 pine"; — compare the latter
 with *P. Tada*, are they not
 similar as to position? Now
 on the old trees of *P. Tada*
 I have seen the fertile ants



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44 Thrust out from the side of a cluster of the sterile, but this is not so is it in the specimen from the young tree (P. Tada) which I enclosed? And this I know to be P. Tada, for I examined the cones & leaves carefully, & I believe I am pretty familiar with the tree. But it is very brief I have not apprehended of exact meaning. As for the habitat of the tree it is found interspersed with the other pines both in the sandy soil along the river (May River), - on the little low island of the marshes & "Sands" - where it is rather stunted, & also in the sandy pine-barrens, where it becomes a lofty tree. In the neighborhood of Hardenville it is abundant & continues along the Chesapeake Bay for some 20 or 30 miles - I think I lost sight of it about Yemassee & Pocotaligo, & did not see it at the various stations as you go on to Chester of Ashepots, - Pon-Pon, Combakee, & Edisto. (I dare say



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GARDEN

Recd March 25 1871

5 you may recognize these old Indian names, having met with them in Elliott; - I like to write them as they are pretty much all we have left of the Carolina, & other dogs!) About chestnuts I failed to observe it during my visit to James Seed, but this is no wonder, as most of the trees were cut during the war. The cone to me presents the most striking difference in comparing it with others, & may be recognized at a glance by its form, its rather close imbrication, its rich brown colour, & the purplish tinge of the inner portion of what shall I call them - the arms of the scales? This is very marked when they first fall & add much to the beauty of the cone. I sent Mr. P. some 6 or 8 of them of all sizes both from sandy soil & damp pine-lands. I conclude he may have sent you one or two. From time to time as the pine decays itself I have ~~sent~~ mailed to him good specimens, so that he is well "posted" as to its peculiarities. On the 15th I mailed to you a package of all the pines with exact dates of the time of collection. By examining them & comparing ^{them} I think you may arrive at a more accurate knowledge of the progressive flowering than even I can,

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MISSOURI
BOTANICAL
GARDEN

6) who have not them now by me. The season with us has been early, - but without the above seeds I will say that

- P. "Unterwood" - flowered - about - 15 Feb
- P. Australis - " - " - 1 inch
- P. Teda - " - " - 5 "
- P. glabra - " - " - 10 "
- P. Mitis - " - " - 25 " ? ? 10/11
- P. Serotina - " - " - 1 Apr ?

I don't know what it may be in other seasons, - The Judas tree (Cercis canadensis) has for 2 weeks past been in a flame on the road sides, & the buds of the gum tree (Liquidambar styraciflua) dropping, & the glory of the Yucca, waning, - to say nothing of Sassafras & Prunus Carolina &c &c!

* with letter 15 inch

P.S -

As I sent complete specimens of all that you desire for the present I shall not send others unless I hear that they fail to reach you. I have duplicates of some. At the right time I shall endeavor to procure the more advanced ones &c. The book has not yet come, but as much obliged to you as I am, & as much as I'd like to receive it I think you had better not trouble yourself further in sending ~~it~~ ^{that} which can now be replaced!

I enclose 3 or 4 seeds ~~that~~ ^{which} when you have been you will greatly oblige me by examining, & telling me (if possible) what they may be, for I found them in a very out of the way place. They may be very common but I do not know them, & for certain reasons my curiosity has been greatly excited - But I shall say no more - lest in my blindness, & ignorance I find that I have stumbled on a "mare's nest" !!! I have sent the same to Mrs. P. - with the same request -

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MISSOURI BOTANICAL GARDEN

Mar 15 1871

(7) P. S. no 2 As regard Elliott's "Heterophylloides"
I ought to tell you that last Nov^r
while passing over the line of R R from
Hartsville to Savannah just after
crossing over the Savannah River I saw for
some miles a tree, wh, so far as I
could judge when the cars were not in
motion - was a P. Teda, a wh had a
remarkably smooth bark. At the time
I wondered whether this was not P.'s
"Heterophylloides", but I had no opportunity
of course for further examination.
Since then I have been continually
on the watch, & I certainly have
seen 3 or 4 trees quite large & undoubtedly
P. Teda with a reddish & smooth
bark, - may smoother than "P. Aus-
tralis" - with ~~a~~ no furrows hardly
at all. Now P. Teda has a rough
& black or grayish bark, & more deeply
furrowed than any other pine I know
of! Does this smoothness result from
extreme age, - or can this red & smooth
barked tree be indeed the Heterophylloides?
There is one near here, but it is lofty &
I have failed to obtain aments &c from it.
Perhaps I may yet tempt or bribe some
Gorilla or chimpanzee, who is "a man
& a Briton" to climb the same for
me, & see what may be the result!
If so I shall inform you, but I
don't apprehend that much will come
of it!

(11)



P. S. No 3 ! - 18. Me!

(8)

I find that the eye of writing
is upon me - yet are you
alone to blame, for enthusiasm
I have observed is far more
contagious sometimes than
disease! Let me state therefore
what a man told me this morn'g
when I met on the road engaged in
felling timber. "Do you know such a
tree as the Smooth bark Lobolly Pine?"
(Elliot's name you may remember for *Heterophylloides*?)
"Yes! I know it well - often seen the tree."
"Where"? Near Mr Vaigneur's old field on
Savannah Riv Swamp - a - growin' on the
knolls like. "What sort of a looking tree
is it"? "Smooth bark - kind of darkish,
& has little short straws (leaves) not longer
than that" (marking, 2 or 3 inches on his
finger). "Why that's the Spruce Pine you
are talking about - that has a smooth bark
& short straws, - only two straws together - that's
no Lobolly"! Countryman somewhat abashed, but
determined to show fight - "Well I don't know
what you call it, but old Mr Hudgens took par-
-ticular pains to point it out to me when we was
in the swamp & he saw it was Smooth Bark
Lobolly, & I reckon he ought to know"! What further
did I say & how did I justify combat - The authority
of Mr Hudgens. But there's no telling - he may
be right yet I think he was describing only
P. glabra. He promised if he went into that
neighborhood to bring a branch for me & also to
go with me to a P. G. - & say if that is Mr
Hudgens' tree. And so what becomes of my
smooth barked - reddish Lobolly if Mr Hudgens'
tree be indeed *Heterophylla*!

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MISSOURI
BOTANICAL
GARDEN

Dec 28
Jan 20

Bluffton 10,

70-

20. Nov. 71

H. Geo: Engelmann

My dear Sir

I have recd. three letters from you lately, - the first containing a leaf of "*Y. filamentosa*" I answered immediately, in which I anticipated I believe ~~most~~ of yr. views, & at the same time sent you a package containing complete flowering specimens of all the pines about me, - male & female & with cones of the spring of '70. Those of *P. mitis* & *P. Serotina* were not so good as they have not yet put out into full flower! A second letter of 10 m^{ts} announcing yr. belief that the "unknown Pine" to which I called yr. attention was "a new & good species", & this also I have answered, at the same time enclosing specimens of the young cones of the yr. of "*P. Australis*,"



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"P. Joda" (Young tree) & "P—?" (unknown)
 with notes & queries thereon. And
 now to night of last of 15. m
 wh I proceed to answer briefly,
 — as I have (as before remarked)
 anticipated most of yr questions!
 The "unknown Pine" I find almost
 invariably 2 leaved, — rarely 3 leaved;
 occasionally ~~found~~ by two & three
 on the same tree, ~~found~~ on one or
two trees growing on the road-side
 I have found the leaves altogether by
threes! This perhaps owing to a
 free & open situation & in good
 soil, — of the very many others here
 — etc & among they were as a rule
 stated mostly 2-leaved, & it was
 this with the peculiar cone wh^y first
 struck me, last Fall! The cones
 vary from ~~3/4~~ to 6 ^{inches} ~~1/2~~ — gen-
 erally, I w^{ould} say about 4 1/2 inches or
 5 inches —
 Their habits — Colour & appearance
 described in my last. As regards
 the popular name altho' I have
 asked many questions of different people
 present.

* I have found if I see examine a great many old trees
 this result different — but this need not be the case

* I have just carefully measured 3 or 4 of diff sizes



I have not carefully measured 3 or 4 of them

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

I have not been able to satisfy myself, as you invariably get a different answer from each person: One told me it was called the "Bastard Pine" which I thought somewhat appropriate, & another (a negro) the "Slack Pine", but this name a Yankee wood cutter as I told you gave to the "P.mites" when his attention was called to the latter tree. I find it is almost needless to ask even wood cutters about the very trees they cut, - their answers are so contradictory, & the names by which they designate trees so conflicting & differing ^{apparently} ~~apparently~~ in opposite localities. As to which they are often "pig-headed" & soon contradict themselves! There is but little doubt that this tree is separate & distinct by itself, - my idea was that it must be Ellwells' P. Rigida ^{CO} (This neighborhood (Beaufort ~~was~~)) ~~was his old Botany~~ -ing ground) or, - possibly his variety Heterophylla. But I do not feel at all certain; but I know of no



Other trees about here than those given
before in my list. I mentioned to you
what a wood-cutter told ^{me} of his preference
for *P. australis* (yellow pine) as timber
but that this was also good. Let me
repeat that I know nothing of Elliott's
P. Rigida as a tree distinct from this
nor of any intervening pine between
the *P. serotina* here (Pond Pine) & Mr R's.
I have never seen his & know nothing
about it! When the *P. serotina* is in
full flower I will send ^{them} to you by
mail, but if you prefer I can still
later send branches in a box of Express
containing, if possible cones of the spring
of '69 - '70 & '71 which will make the
specimens complete. There may however be
a good deal of delay as we are here
almost shut out from the world ("inside
Barbarians" like the Celestials!) & the
opportunities of getting off anything to
China & back by safe hands not so
good. I think it very doubtful whether
you can get a copy of *Walters' Flores*
wh. I've never seen - if I mistake
not Dr F. Payne Porter of Ch'ki is a
descendant of his, & he perhaps or Mr
R - may be able to inform you.
- or - you might try Baillieu & Co of
N.Y. who I believe deal in rare &
scientific works.

P.S. I shall try to send
some out in a mail a few days
for Mr W.C. - Thanks! *Ch. M. Manschandy*



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Rec^d March 28th 1871

PS - I send by this mail *P. serotina*
& also a branch with cones of last
yr of the "unknown Pine" - with
3 leaves. This from the roadside.

I do not yet feel at all certain
that this is not Elliker's *P. Rigida*,
for if it be not that, I cannot im-
-agine what tree he had in mind
growing in the "Low Country" - but it
may be his *Heterophylla*! As for
Mr. Curtis' tree, I cannot think
if it be the same as my "unknown"
that he was for a moment
have called it as a variety of
P. Tada - This mistake indeed
I made for some time, but before
I had examined the cone - see but
then I am only a fable in
such things. The statement how-
-ever he makes about the
timber is remarkable - for

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GEORGE ENGELMANN PAPERS



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There is no doubt that mine
is very serviceable as such
& will not be rejected by ship-
-carpenters (so I was told!)
The "yellow Pine" of Australia
will be preferred. This however
is not much of a timber
country & those engaged in it
are not I imagine "Experts".

CHD.



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botanicus

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botanicus

also March 21st 1871 (5)

The cones I first took (but Mr. P. sent me them?) say a good deal in length, but the imbrication is close & compact & besides they are of a rich brown colour - having a varnished look.

I send specimens from several trees of different dates of the aments & of P. glabra, & today was fortunate enough to get from a tree whose branches extended out into the saltwater marsh & which perhaps ~~are~~ ^{are} ~~level~~ ^{level} of every tide - the very young cones of this seem or perhaps I should say the fertile aments, on this tree the ~~old~~ ^{old} cones ~~are~~ ^{are} almost invariably paired, - the you will observe that the young cones of Spring '70 are single. The pair of cones ^{of '69} as you will see have been torn off. There are but few of P. glabra here but the most unpracticed eye can detect them; - this tree from which I take the fertile aments was growing on a little bluff on a creek running up from May River (Buckingham plant) surrounded by hickory, Magnolias, Laurels, Palmettos with here & there a Tilia - (P. pubescens) Rich soil you see! No use is ever made of the wood - perhaps because the tree is so scarce here, but the grain is very coarse. The same lumberman told me he had made "a splendid pair of oars out of one of 'em" for his flat, a boat & that they were "springy" & "as good as ever best can about having oars" &c &c All this for what it is worth - don't think my informant very reliable. As for P. Nitis - rather a miserable



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(1) A seagoing boat about one with a
 with a coffee bark. No use was ever made
 of the wood for the planters always
 used Loblolly - (P. Tarsa) when P. Australis
 perhaps the "unknown" were not to be
 had. A parcel of 4 antlers
 however who have put up a saw
 mill in this neighborhood are cutting
 everything right & left, as it will be
 all right that comes to their mill - They
 have saved up some of these pines
 tho' they are small & inferior. The wood
 seemed to me to have a reddish appearance
 - soft & rather coarse. I imagine
 it will be good for flooring purposes.
 One of the above watermen called
 the P. Mitis - "Slash Pine".

My dear Sir I fear you
 think your's caught a Tartan
 in me, so I must close
 } saying ever again (Adas!)
 that the book has not
 yet come!

Pines sent in packages *very respectfully*
 P. - (Unknown)
 P. Australis
 P. Tarsa
 P. Serotina
 P. Glabra
 P. Mitis
 2 leaves of
 a yucca -
 I must beg you to
 pardon my servant as unavoidably
 I've been compelled to hasten.
 I am not certain whether the little box
 sent long ago containing yucca cespitosa & cactus
 fruit came to hand. I conclude it did.

W. Merriam



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MISSOURI
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I conclude you have rec^d the 2 packages
sent - & 3 letters.

Rec^d April 4th
Apr 20
To -

Bluffton 70
29 Feb '71

Dr Geo: Engelmann

My Dear Sir,

Your very courteous
letter of 11 inst^h was misent to
to Beaufort & I've just rec^d it; it
is to me very instructive, & I now see
very clearly the differences wh^{ch} you
point out as to the terminal position
of the female aca^{nts}. I was not satis-
fied however until I examined the
branches of the "unknown" (as I shall
I say? Elliott's at once?) con-
-taining the young ones of 1870; - Thanks
for the trouble you have taken with
me! But after all said and said -
do you know that I still have doubt
as to whether this Pin^{us} be indeed
Elliott's *Heterophylla*; - I believe I
am about to repeat what I said
in a former note, - but it shall
be brief. First, - the *Heterophylla* is
said to grow "along the marshes near



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the mouths of fresh water rivers," - whereas I find it here on salt water not more than 10 miles from the ocean - both in light lands (cotton) along the "Bluff," - as well as in the damp pine-lands. Also on the little low islets in the midst of "Sands" & marshes, - in all situations it excludes the other pines, & where also of course it becomes a stunted tree. Besides, Elliott speaks of it as growing among the "forest trees," - whereas, about me it is found only among other pines - as *P. lentissima*, *Australis*, & *Tada*! - and indeed immediately on May River Bluff there are some 8 or 10 acres entirely "grown up" in young trees of this pine! Furthermore, says Elliott, - "It has more sap-wood than any of our pines," but our new pine is not rejected by lumber-men, & indeed some of these men told me yesterday that it was excellent timber - this of a coarser grain than *P. Australis*, & that in some respects it was preferable, as it was never found "wind-shaken" - to me then & preferred. I examined too a stick which they had just cut for market, - it was 61 feet clear of limbs as I saw it, & I was told there were 57 now, - a specimen of this I enclose. These men also informed me that they had often cut them much larger, - one measuring 87 feet clear of limbs & 19 by 20 inches after being squared (taller) also that generally this was a much taller tree than *P. Aust.* & of the cones of this I have no doubt from what I've seen even here, - for in damp lands it is far more lofty. Now as before remarked this place is in the range of Elliott's old Home in Beaufort (about 25 miles from here by water) & I believe he must have been familiar with all this neighbourhood; - certainly he frequently resided to Hilton Head (8 or 10 miles from me by water) where most probably he frequently visited - as his own heirs fully have owned land there for generations. [At present of course in the hands of negroes, Yankees & other vermin.]

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If then our pine be indeed Elliott's *Heterophyllum*, it certainly is strange that he should have referred to its being found only about the margins of fresh water rivers &c. Besides, he often mentions the country along the "old Painsburg road" in diff. places in his notes, & it is in that neighborhood (Hardsville - Grahamville &c) that this pine is so abundantly found, & of greater magnitude than here. Must he not have seen it there? - if so, why refer only to the above mentioned fresh-water rivers in *fa*?!

Strange! to say the least! In other respects the description, open-leaves 2-3, - the flaking of bark in larger scales than *P. Aus.*, & the very abundant potted. On the other hand now what is the *P. Rigida* of Elliott? & who ever saw it in the Low-Country of S.C.? I believe I mentioned that this pine & indeed a vast quantity of gum, - the wood cutters all refer to this, yet one of them told me that the "hands" attached to a Turpentine still near Hardsville were ordered not to "dip" or sponful from the tree, as it invariably "burnt," - as he says, - whatever that may mean! But I don't know that all this will help you locate the tree, - yet it may not be irrelevant. My "Smooth Bark Tobacco" friend (of whom I wrote you) still insists that his tree growing on the knolls in Sack River Swamp is neither the Spruce (*P. glabra*) nor the other ragged Spruce (*P. mitis*), but a diff. tree a very lofty; the former tree he is evidently familiar with, for he said the smaller branches were "kind of silvery like," but his tree was diff. from them both! He has promised if he gets into that neighborhood (as he hopes to do soon) to bring me specimens. I hope I have interested him in the matter, but these people are generally very unreliable. I still think his tree is only a very fine Swamp-specimen of *P. glabra*.

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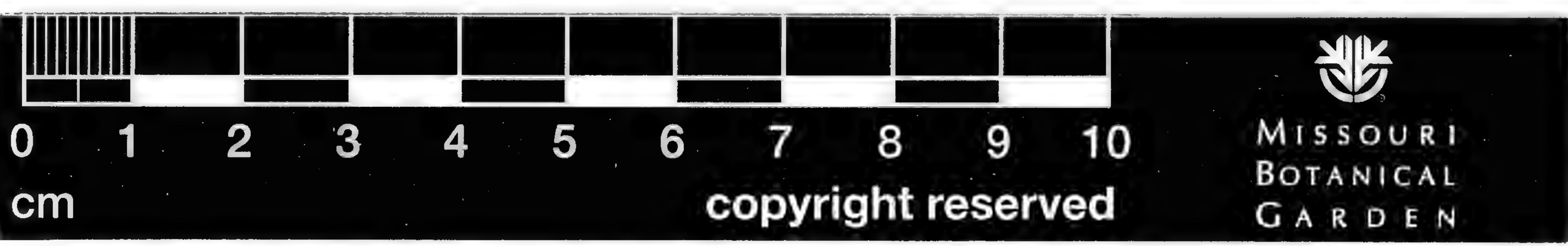
MISSOURI
BOTANICAL
GARDEN

After much early questioning I find that the Pines is here generally called "Slack Pine" - sometimes "Blue Bark Pine" - sometimes "Bastard Pine" -

As for the name of the new tree, which you kindly refer to, - in any event Elliott's name is the appropriate one. In obedience to your request I have covered complete specimens of all your pines save *P. glabra*, & shall send them in a box as you request. I repeat that it gives me pleasure to serve you if I can. The male flowers of the "Unknown Pine" having bloomed in mid of Feb, I collected only 3 branches, - one which I sent Mr. B., another myself, & the last of which I will send in box, - the of course I can get other branches from which the anthers have fallen. I am enabled thus to get what you wish owing to a fortunate gale which lasted but for a very short time however, & by no means so disastrous as that St. Louis and you have seen acids in the papers. It prostrated a large Pond Pine (*P. serotina*), & I've already selected the choicest specimens for you, - also *P. Jeda* - a limb thrown down at the same time. You see from what I enclose that the Laffard *P. serotina* & *P. mitis* have at last acknowledged the influences of the Spring season! So you may put them down to gether as blooming 28 March - or 1. April, which perhaps will be near the mark. And now let me thank you very heartily for your important work on the *Cactaceae* which has come to hand, - it has interested me much & the plates excite the admiration of all. Do you know that I very much incline to the opinion that this Opuntia of ours here is the same as the Texas plant - *O. Macconnellii*! Looking at your plate I see no difference - the former prostrate, - semi-erect & erect joints over an inch thick & fleshy. I shall wait for the flower & see!

You must not be surprised if some of these fine - days I startle you with a specimen of Elliott's tree *Heterophylla* - for I think it can be found & it will not be the salt water tree! If our tree be *Heterophylla* I can't think that Elliott would have placed it under *Jeda*, - so you see a man eminent about his will is of the same opinion still!

Yours & resp. C. D. M. M. M.



You ask me why I take an interest in such things? only a taste I believe I derive from my Father who amid many arduous duties as the Rector of a Parish of in the low country often amused himself with this study as a recreation. It the most profitable than a Botanist any man. Than myself derives much pleasure & satisfaction from it. "Simply this is nothing more" - add to what my life in the country & having something to distract the mind besides one's profession (now worthless) from the ruinous confiscation of taxes which is fast culminating in war not against the good, but the State. Please pardon such allusions which I have no right to make - but I shall not repent again - it is so hard to avoid expressing some feelings on such a topic. I have written to my Father to seek a little out for any mid-country you see where he has removed from a desolated home a Parish on the Sea-coast? - Pardon once again for such talk



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Do not trouble yourself about hunting up the berries
sent. I now find they are from
Sideroxylon Chrysophyllums - (michx) 5. Apr '71

70-

D. Geo: Engelmann

Rec^d April 11th
Apr - 20

My dear Sir

Your last letter of 24

25 Mich has been read & all the rest
annexed as well as I send, including

that of 10 Mich (?) wh was mislent to
Beaufort. I have at last made a

perfect collection of good specimens of

all the pines about me - placed them
in a box, directing the Negro who

takes the same to drive this in
the P.O, after expulging the former of

Southern & Gulf Co from Savannah for
the package is made in open boat,

so that of course there are many risks
specially in the hands of these care-

less people, but I am in hopes it
will reach you safely. Directed to

300 B; Lucust St St Louis, Mo. Country
from below the box contains 1st, Specimens

of Sageretia Michauxii, a pulped young
cones, - 2^d, P. Australis; 3^d, P. Elliottii;

4. P. Teda - with a clustered cone var;

I have lately met with a man - a nut cutter, who repeats
all former winter as to the timber of P. E. for use. He says he has lately seen 2 or 3
pines (P.E) in low ground from which he is certain he can get 90 ft. for
timber clear of limbs.

Scale of bark has a bluish look as you will see.
the call them a Black Pine & Blue Bark - the outer



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5. *P. Serotina*; 6. *P. miles*, 7. *P. glabra*;
8. - Still further specimens of *P. Elliottii*
up to date, - also a few of *Yucca*, -
berries of *Sapindus*, - drupes of *Nyssa*
Capitata ("Ojebow lime"), *Al. America* &c,
and 2 or 3 pints of a pretty pear
with a coat 18 or 20 $\frac{1}{2}$ in length, wh^{ch}
I suspect of the *Opuntia macrombiza*.
The seeds (2 or 3 of the larger wh^{ch} you will
recognize) (under however an inferior mem-
-ber) - resemble the above also, & seem to
be of the exact size. The more I examine
of both, the more I like it on the plates
an *Erinite*, but I think I prefer those
of *Rehmannia* to *Pistia* forms - Thanks!

And now a word or two as to
P. Australis wh^{ch} I've been looking at
careful, & wh^{ch} seems to differ so much
from all the rest about me; and 18!
as to its germination & early growth, - I
enclose specimen - how diff^{erent} from the
others! It just appears from the earth
like a little tuft of grass, & remains
for a long time without apparently any
stem, or wh^{ch} is so short as to be
buried in the earth. The other pines



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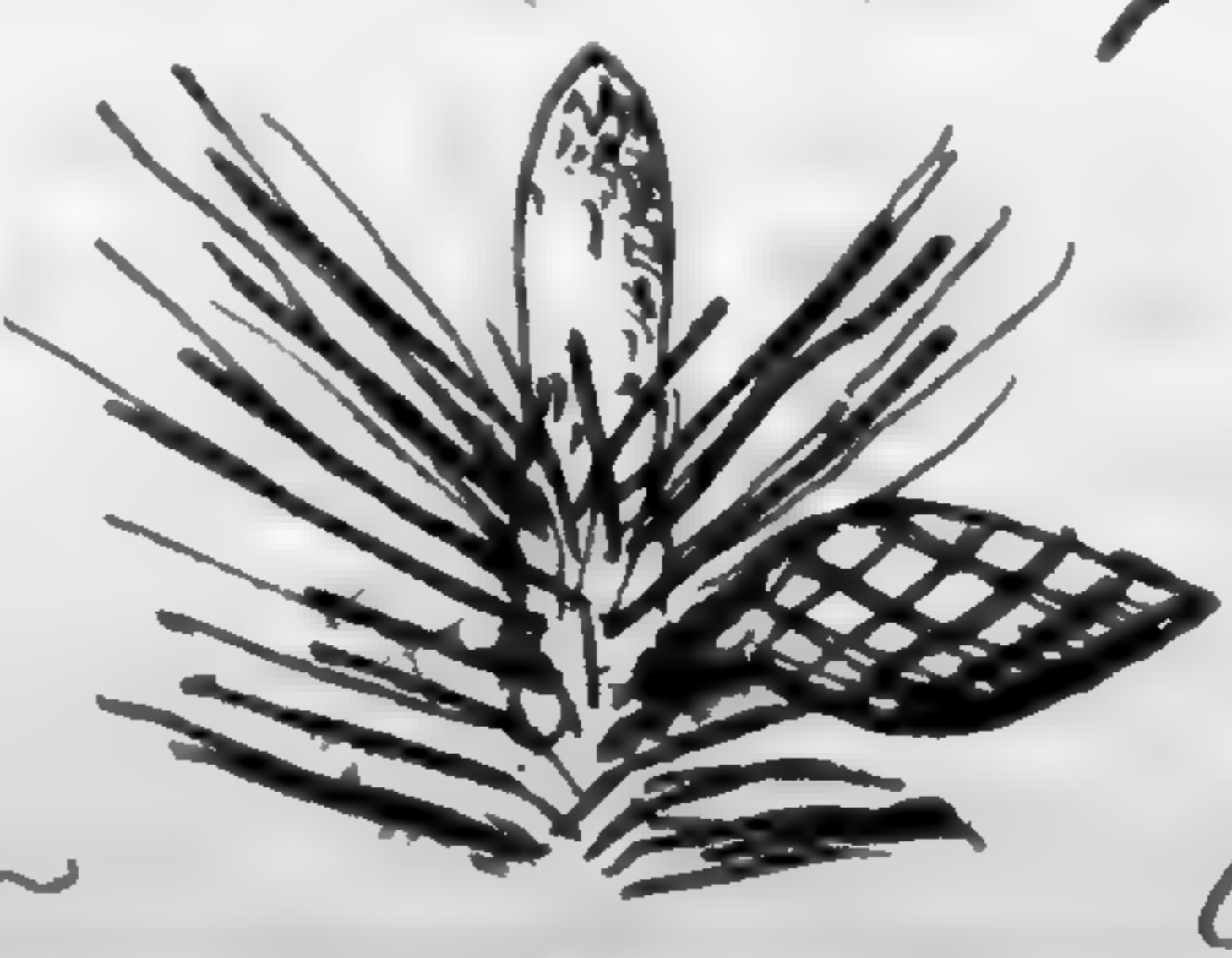


MISSOURI
BOTANICAL
GARDEN

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

on the contrary exactly, assumed the look of a
 miniature tree & continues growing in that
 shape, while the former are for a long time
 moss-like (indeed I have frequently mis-
 taken them for a tuft of the "wire-
 grass" of the pine-lands! I have planted
 a few seeds of *P. Elliottii* to see if there be
 any decided marks of kinship in this regard,
 but I am fully well satisfied before hand
 that these also I enclose are *P. Elliottii*, as
 they were found where these mostly abound.
 But it is best to be certain! As for the
 cones being terminal in the botanical
 sense - I suppose they are - but is it
 certain? Please carefully examine the large
 specimen of *P. Australis* from a young tree
 about 30 ft high - which looks very much
 like its having put out leaves that very
 year above the young cone, - or do the
 cones of *P. Australis* without doubt
 mature in 18 months? This same specⁿ
 struck me particularly in the very great
 size of the young green cone, so much
 larger than many green cones of the same
 spring ('70) & taken from a large tree only
 10 days before this. To look at the
 2 cones of 2 diff^t trees one wd say that
 the former was that of spring '70!!
 But I suppose it is due to the ex-
 -cessive & vigorous growth of a young tree -
 yet I wd call yr attention ^{to it} even at
 the risk of ~~yr~~ thinking these things very
 idle & superfluous to one who has
 gone over the whole ground so often &
 so thoroughly as myself!

But I find the pines a
 knotty subject (like their
 "pine-knots") and I soon



'70 very
 own
 become

confused ~~in looking~~ while attempting to disan-
 -tangle certain peculiarities. Now for another
 thing which seems strange & in why *P. australis*
 differs from the others. You never find
 the young cones of 2 successive springs (say
 '70 & '71) on the same branch - at least
 I have not this season, tho' I have ex-
 -amined a great many trees just cut by
 the wood cutters, & in ~~fact~~ of all these trees,
 on only 2 did I find any of the green
 & now quickly growing cones of the spring of
 '70, but thousands of those of ~~the~~ '71. This
 of course due to so many immatures & dropping
 cones, still, I've been surprised to find so few, but
 never have I been able to find the ^{green} young cones
 of '70 & '71 on the same branch! NOT so

however with all the other pines including *P.*
Elliotii - you will find '69 - '70 & '71 on a
 branch with them all - and indeed in *Sextonia*
 '71 you may go back still on, two or 3
 yrs of unopened cones on same branch!
 As for the dropping of the leaves ^{of *P. australis*} from
 all that I've seen I do not think
 they drop until the summer of "fall"
 of the third year, counting from Spring
 to Spring - i.e., leaves of the Spring of '70 will
 not drop until the summer of or fall of '72!



You will see that the axis of the *P. E.*
 is elongating as you have anticipated &
 the cones already coming to bear downwards.
P. glabra are apparently with terminal &
~~non-lateral~~ lateral as you will see. As
 strange as it may seem the cones of *P. T.*
 do fall - a earlier & more abundantly than
P. a. - all the rest cling; especially *P. f.* &
P. miles, *P. Teda* also, but of these many more
 fall than *P. f.* & *P. m.*. On other things I've observed
 viz., that in wet weather pine cones both on the
 tree & on the ground which had widely gaped - close
 & pretty tightly too, but as soon as thoroughly dried
 they happen in a few days they again expand!
 Thanks for *P.* letter - to me my instructors.

Yours truly
 C. H. Merriam

I have lately met with some of an intelligent & intelligent man - a wood cutter, who repeats



Rec^d April 21st
An — 23rd

Postmark 17th

Burton C

3

7.

15 Apr '71

W. Geo. Engelmann

My dear,

There was it seems some
 delay in expressing the box of Pine
 specimens as after having been
 carried to Sarva of the negro,
 I however recruited a friend there
 to attend to it for me & I
 now enclose the receipt of the
 Ex. Co. You will see
 that it was sent to you
 at least on the 11th & indeed
 ought to reach you today (Saturday).
 I trust the specimens will give
 you satisfaction & that they will
 not reach you too much crushed
 or "sweated" in the box.

You desire me to state
 the amt. of expenses wh. I've
 almost accounted to you — but you
 want it & altered the times
 have changed with us here

Exp. paid in Sar.	\$ 3.25
negro carrying box to C	0.50
	<u>\$ 3.75</u>

Very respectfully
 W. Geo. Engelmann

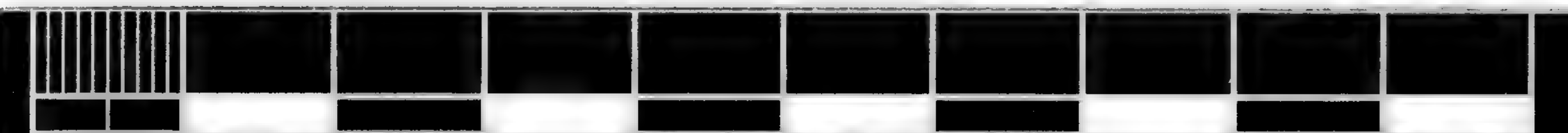


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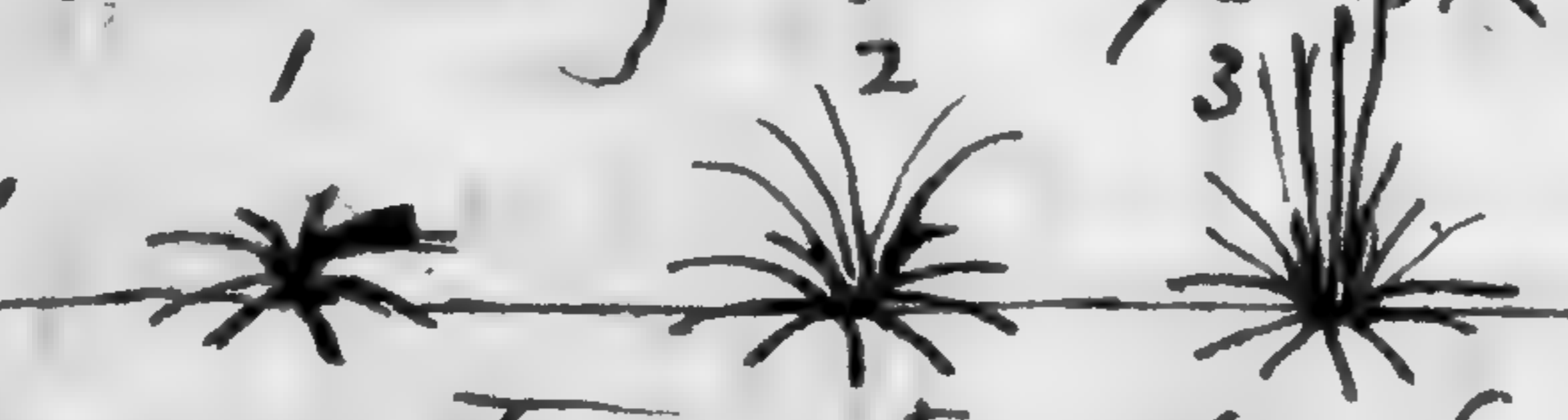
MISSOURI
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Rec^d May 9th 1871

Bluffton 10

Dr. Geo. Engelmann - 3 May '71

My Dear Sir,

It was very kind of you to take the trouble to write me that long letter of 20 ap. wh^{ch} I have read & re-read with increased pleasure, & wh^{ch} indeed was to me most instructive. I shall try now to answer your queries in their order into y^r letter before me, & if anything occurs to interrupt me I shall break off & start fresh another time. The peculiar se- mination of P. Australis has been long fam- iliar to me & I thought it best to allude to it, but I did not suppose that it would prove new or especially interesting to you. I have not been able to procure a specimen of P. Australis with only the cotyledon leaves altho' I have found some wh^{ch} are very young, & wh^{ch} you can examine for y^rself. So far as I know the plant behaves thus, first appear the cotyledon leaves - then very quickly the single ones & immediately after the regular 2 or 3 leaves in bundles, - but I repeat that in my youngest specimens I find all three at the same time, but the true leaves just commencing to push! Look for y^rself! Possibly thus . Now if you will take one of the enclosed plants of P. Australis you will find the three sets of leaves in as it were three concentric circles, - tear off the



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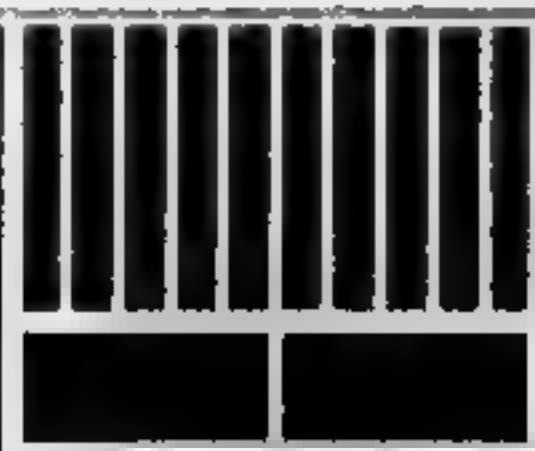
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the outer cotyledon ones & you come to the few single leaves disposed to be erect, - tear off them & here are the regular leaves in sheaths or bundles occupying the very centre of these in the very young plants there are only 2 or 3; - sometimes 2-leaved, - sometimes a most generally 3-leaved! All of these different sets of leaves apparently are on the same plane (shall I call it?) - perhaps the regular leaves being a little elevated - and this condition continues for how long? - one - two or three years & but a very little advanced being made the whole vigor of the plant being directed to the making of a deep & stout tap-root - & a continued increase in its circumference, but little or no elongation of the stem, - which as I remarked before seems buried in the earth the true leaves springing from it as a centre & giving a mop-like or tufted appearance to the plant. In this respect it differs so far as I am informed from all the other pines about me. In a visit yesterday to a poor negro for the year who was terribly burned - "I passed a certain cleared spot in the Pine-barren" which during the war had been used as the camping ground of a Squadron of our Cavalry & it was literally covered with a thick growth of the young pines of *P. aus.* - perhaps even you with your practiced botanical eyes if you had not been familiar with their peculiar appearance would have mistaken them for very luxuriant tufts of Pine-land grass! So thick were they in some places that you could not have placed your hand between the plants for several feet without touching their ~~stem~~ leaves & probably your remark might have been "quite a green meadow in the pine-land, & very luxuriant grass!"

GEORGE ENGELMANN PAPERS



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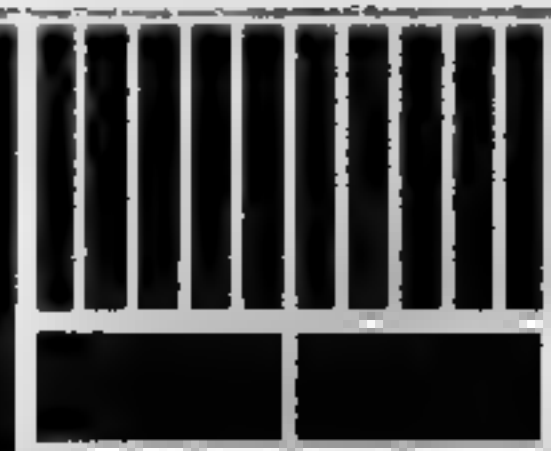
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The "buds" of these plants were not over one
2 or 3 inches high & the leaves erect about
6 inches or a foot in some places. Now
with the other pines the cotyledon leaves are
put out on the radicle(?) about 2 inches
more or less from the earth, — then a stem
commences to form running up strictly to
5 or 6 inches & throwing out the single
leaves & next in the axils of these come
the true leaves & the first year too I sus-
-pect judging from a specimen I have.
It then strictly assumes the appearance of
a lute tree but the *P. australis* remains
grass-like & but buds elevated above the sur-
-face for a much longer time apparently —
but then he does not believe in mush-
-room growths & spindling stems — He digs
down a bit deep, laying a solid basis
for the shaft he means to run up —
— thinking of the days to come when lutes
"Topmost of Jarganus" shall "stand up,
— and take the morning!"

You must not be too certain that the
other young specimens sent were correctly
labelled — I do not feel sure, tho' almost
so as to *P. Elliottii* & all of them I obtained
from localities where such pines mostly abound
but there can be no certainty about it
until the seeds be planted. None of mine
have germinated — most likely imperfect
seed. This fall however I can attend to
this matter. As for the no. of cotyledons
leaves in *P. australis* I do not feel sure,
— they evidently vary — I find 8-9 & 10
but never more than 10. 10 I imagine
to be the most usual tho' I cannot be
certain. As for *P. Elliottii* that varies
like-wise — 7-8 &c.



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I forgot to say that *P. australis* does not branch until he arrives at the height of 4 or more generally 6 feet & then grows with wonderful vigor. Sometimes he runs up much higher still without a shoot thrown out to the right or left. The cone of *P. aus.* is very large as you know & generally of the same indefinite olive colour, but it varies in being darker like other pines. The former however is most usual & best observed in those just fallen & not exposed to weather. The cones in the box were those of *P. Elliptica* - I refer to those of glossy brown in the 4 corners & were sent to represent the & berries somewhat of their appearance, tho' I have met with them still smaller - but not larger. I have observed their differences you refer to as to the spines on the scales &c but I lay no stress upon that - I find the cones of all pines differ greatly - owing to locality &c & upon examining trees I cannot discover any special differences - some with more 3 leaves than two & others many more 2 leaves than three - and so on. The Bark also in the box was that of *P. Elliptica* - a specimen perhaps a little exaggerated, but I find these long thin flakes on all the older trees I have examined. It is a remarkable peculiarity of the tree - this thinning off of longer - larger & thinner flakes than even *P. aus.* - Before these flakes are quite thrown off they form & remain to weather have a bluish white (hence the name given by the woodcutters sometimes of "Blue Bark Pine") but to me the tree looks more red than blue on account of this & decomposition of the old layers, & I have frequently picked them out in the woods among many other pines by this method here.



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(2) rec^d May 9th 1871
As for the differences in *P. glabra* I can
discern little or none in the appearance of
the trees except that depending on soil
some being more vigorous than others. All of the
cones (~~unless I am much mistaken~~) in the box
came from 2 trees at "Buckingham" not far
a-part, both growing on a kind of core making
up from the river-marsh & one of these trees
threw out its branches so low that they were
laved by perhaps every tide. It was nourished
by salt water & sea-breezes! Now I have just
examined the cones from a branch wh^{ch} also I
sent you, & wh^{ch} I picked up at the foot of
the largest tree & wh^{ch} had evidently been torn
away from one of the topmost branches
in a gale & this has no prickles or very
extremely small ones - but the others from the
tree growing almost in salt water have prickles
unmistakably. But there is no difference
whatever in these two trees. Their leaves
were also as you say slender, but you must
remember that the other specimens (the
puffed ones) were from the lower branches
of trees wh^{ch} themselves were shaded & pro-
tected. This always makes a finer - softer
& generally I think larger leaf. Exposure -
taking freely the sun-shine & the storm
make a wonderful difference in the
pine or indeed in all trees! Leaves
sometimes in 3 you say, - that is not
I suspect very unusual with *glabra* or
indeed any 2-leaved pine & is perhaps
only an indication of vigor & good soil.
The distinguishing & diagnostic mark of *glabra*
is his smooth stem. One has only to see
P. mitis & *P. glabra* side by side as I frequently
have (especially the younger trees) to satisfy
himself that they are utterly dissimilar.
Our *mitis* here may be as you say a
connecting link between the ordinary *glab.* & *mitis*
but I have never seen what you may



term the true *P. mitis*. I shall request Mr. R. to send me both that & his *P. Serotina* which you say approaches *P. Rigida* so closely. Either with this mail or the next I shall send a package of Pines with growth up to the present, tho' it seems to me a delay or since 10 days or 2 weeks would be an advantage & in this I will send a *P. Serotina* with male ants dried upon the tree. You desire to know if the ants of this elongate as in *P. Rigida* - I do not see any elongation of the ant pupae, but as I have never seen *P. Rigida* I am not sure that I apprehend the meaning. ~~There is a~~

~~substantive distinction~~ ~~between~~ I generally find the ants making a "cylindrical spike", which is ^{very} remarkable, they ~~are~~ ^{are} being not ^{as much} clustered together as in *P. Q. P. E.* - indeed most of the other pines. This so far as I have examined, - tho' I believe it is more patent on the younger trees - than the older, on the latter they are often much shorter & very much as in other trees. Most probably due to the greater vigor of young & growing trees. Is it that the *P. Rigida* & *P. Serotina* are supposed to be the same tree? - I should like to see *P. R.* - very much - When does *P. R.* open its cones - or does it drop them? Every fall after taking the usual 18 mos to mature? - or is there a long delay as in the case of the *P. Serotina* I now have? What you say about the cones of *P. Pinus* of Italy makes me pick up my ears for I haven't yet satisfied myself as to when the *P. Serotina* opens. Certainly it is tho' I've examined hundreds of trees this past year & up to the present yet have I

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GEORGE ENGELMANN



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failed to find a single cone of the spring of '69 open yet!! Tho' I've looked up at the trees in diff localities until I feared that my neck might commence to elongate like the original giraffe (several cones back) of Mr Darwin, that being pushed for gaals got to nipping the topmost branches of shrubs - I somewhat fear (the habit being engendered) my descendants ^{may} get bogged down by the penally for my upward - pine-gazing! True I have lately seen a good many cones expanded on a lower limb, wh. had been licked by the flames of the burning woods - but none open above them, nor on any trees untouched by fire! I also have seen them open shortly after a tree had been thrown down, & was once thus deceived, writing Mr R - that evidently I had seen a few expanded but I am now satisfied that the expansion was due either to the heat of the burning woods or from the death of the tree. Possibly these cones I am now watching may expand this fall - if so 30 months, - similar to the Italian trees. The cones however thus delaying, seem already full grown. You remember this is referred to by Ell. & Michx. No matter how much altered be P. R. & P. S. - not this matter a vast difference? My letter was addressed here & not to Beauport, & my acknowledgment of (as you say) my letter of 5 Apr. has not come to hand. What does Rev Mr Curtis say about his "C" tree? A Tada or P. Ell? as for Mr Ruppins trees I suppose the best description is to Meunier to learn anything from it. I used in old days to take Ruppell's mag - & I think I do remember such an article. "So I know real - old Lobolly (Tada) wh. is not of seeds from the!" Such trees are very rare about me & I believe them to be that rather smooth bark Lobolly

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



of which I wrote you some time since.
Bark more like P. aus. a very slightly firmer
- then I suspect an the only orig. L. Hollys of
the "Forest Primoral" about here. Of the
timber of such I know nothing. I dare say
good - but even of the old field Hollys
great use was made in building fences &
tho' it need not last very long. Indeed on
the same of the P. aus. the planters did get
nothing else for building purposes, a glad end
to get that. I have observed that all
that you say as to the elevation of the
branches wh. low sterile plants (even
low bushes) is quite true. Again now
as to P. aus. - I have at last found 2
branches with the young cones of '70 & '71
together - yet only 2, tho' I've certainly
examined several hundred trees as well
as I could. I shall send this to make
of specimens complete, & also a continuation
of the ascending series of young P. aus.
cones in this letter! No doubt P. aus.
is terminal, or - as you better & prefer it
apical - for I have failed ~~so~~ far to
find another besides the one in the
top - wh. evidently was not so! Freak of
nature? - Excuse growth of a young
tree! I see also that it is as you say
about the lateral - cones being occasionally
on weak branches apical cones. I am
still surprised to find so few cones of '70 of P. aus.
& yet so many thousands of this spring! - indeed
I believe I sent you all I found tho' I
had an opportunity of examining very many
trees just cut. If it was due to a late
frost (wh. indeed was the case) why did it
not affect the young cones of P. Elliptica (still
earlier) & I found plenty of them, - or those of
P. Serotina, Mitis - & glabra & Teda - tho' of
course I am aware that there is a ~~certain~~ period
both beyond & below a certain point when cold will

GEORGE ENGELMANN PAPERS



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Wed May 9 1871 (3)

not injured & it may (that *P. Australis* was
"struck" just at that particular juncture!
Evidently *P. Aus* does not shed or much pollen
at *P. Elliptica*. This Spring when the margins
of the little pools were yellow & every place in
the road sulphur-splashed - (wh seems more ex-
-pensive!) The anths of *P. Aus* were still juicy!
- when the time of the latter came I indeed
saw the wafting of the yellow dust & when it
had been caught on the roadside - but it did
not seem to me to approach the abundance
of the discharge of *P. Elliptica*! Thank you
for the allusions you make to your *Botanical*
History & that also of *S. Gregg* - in both of
wh I was greatly interested. And would
Pollen be wafted that distance think you -
- not remarkable! The seeds you took
for *Laurus* were ol. American - wh were larger
than usual - one of the most beautiful little
ones we have - The others a sort of *Pea*
like a ground nut (*Arachis*) are sometimes
cultivated in Ga. They grow precisely like
the above & this thought were brought here
of the neg! from Africa who only need to cul-
-tivate them. Mr R - gave me the bot name
wh I've forgotten but says that he remembers
them big cultivated by negroes when a boy
living in St. Johns Berkeley. The cover
seed was *C. Sagittata* growing in land over-
-flowed by salt water - it is ornamental, but
you maybe too far inland! Indeed, I
never knew before the Hygrometric nature
of the cover & thought I had made a
wonderful discovery - never before observed
by others!!! - But there is nothing new
under the sun! As for *Yucca* I'm
already troubled lest another season helps
& you not get what you need - I have
about 2 or 3 fine patches of these - growing
too in secluded places wh I expect to visit

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at the right time, but in this "favoured
 clime" of ours man proposes & the sugar
 disposes - what was my loss & grief therefore
 on 22nd Sept. extremely - when a few days
 since I found them all cut up with the
 hoe & burned! I have left but one plant
 left already about 3 ft high (flower stalks)
 wh I may get. I have endeavored to interest
 others in this matter, but so far with not
 much success. Be assured I shall do
 my best for I wish to satisfy myself
 also as to one or two questions. By the
 way in the last no. (May) of Rural
 Californian publ. in Chester there is
 a comm. from a W. C. L. Hunter of Lincoln
 (about Omaha!) who states he has discovered
 there the *Y. recurvifolia* of Ell. ~~misst~~ *
 - no bot characters given - speaks of its being
 put up in bundles of plants for hop killing
 &c &c - He refers very particularly to its being
 seen only on S. side of a ga. but that there
 it was! Now my L.S. S. There is a chance
 of your seeing the thing wh I have not been
 able to get hold of near its old habitat -
 that in the old North state! I enclose
 also flower of the *Opuntia Rafinesquina* (?)
 the specimen of wh was sent in box. Stoj. =
 6. - been in flower for 2 weeks. fruit
 pink - or a dull red, for who can agree
 about colours! Oaks? yes! several, es-
 pecially of course the crown of glory of
 the whole family - the 2. Vines of our
 S. side & sea-board! I've just found one
 wh I don't by well make out, growing on
 a timber rather than ridge of sand, ~~the~~ &
 barren soil surrounded by Anderson. Ferry & J
 & P. Aus. Will probably call yr attention to
 it another time. Not 2. V. - or a variety
 Also you will find enclosed 2 or 3 *Euphorbia*
 - *phorbias* - *Euphorbia Carrollata*? - or vari-
 - ties of the same? The first runs into

* & Nuttall, who states that it grew in "sandy
 pastures" p.c.



4 branches or foxtes with a central in-
-crease (?) The white appendages of wh are
invariably larger than the rest & always with
a very short peduncle! Now please examine
the one with obcordate & revolute leaves,
slightly sprinkled with hairs - younger - purple
spotted - involucre almost hidden by the
leaves - peduncles are very short. Stems rather
smooth & pubescent. Don't see anything like
it & or the allusion to any such obcordate leaf
in the books. Grows among the former
plants - seems very diff^r, but may be
but a variety. Recd of last letter with
the enclosed for box & c - am obliged.

Will in another letter tell you what
I have to say as to dropping of leaves
of P. aus. As for the Yucca & its
bark - last winter I visited a little
ground near here in my Room, on the
little bluff & beach of wh the stems of
Y. Drae. are heaved over by wind & waves
in inextinguishable confusion & forming
such a breast-work of bristling spears
~~that~~ ^{wh} even of Germans might hesitate
to storm, & ~~on~~ on some of the trunks of
them lashed by the tides & dried by the
sun I did observe a certain bark
like condition - but nothing more I im-
-agine than the old imbrications & point
to the action of sun & water as above
stated. But another time should I go
there will examine more closely.

Yes! for Paris you mad! one
of an the red story "The Red-foot Fury
of the Seine, piling her barricades
with dead!" I have been
never any interrupted & hesitate



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whether I ought to send you this for
nothing — but I beg you to pardon
it — I haven't the leisure
the time to go over it — don't
know whether I can make it
out — So please pardon the
unpleasant letter & believe me

Very cordially

Yrs

C. H. Merriam

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ms of Apr 20 & 23 have been rec'd & are sent
with many specimens with letters & packages
of Pines &c. Bluffton SC

23 May '71

Rec'd May 30
As June 13
Geo Engelmann
My dear Sir

Young pines incl'd
any more of
P. glabra

Would I surprise you

much were I to tell you that I believe
I'm "not on the trail" of - certainly two -
perhaps three - distinctly ^{marked} "varieties" (species?)
of *Y. filamentosa*? It may be too early
perhaps to "give tongue", as I have not
yet examined the flowers of but one -
still, I've thought it best to keep you
informed as I go along & if it ends
in ~~error~~ there's no harm done of -
-ter all! You will remember that
in the first letter where I had the
pleasure of writing you I remarked
that I knew of but one *Y. fil.*
here, altho' the leaves certainly dispre-
-sent certain differences both of length,
- colour, texture &c &c which seemed to
me to be due to soil &c &c but
I'm now disposed to change my mind
on these points since I've been watching
them shooting up - budding & flowering

will send the P. glabra & fruit of pines - now in full.



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

During the past month! I wrote you
that my patch of yuccas (wh^{ch} being in
a secluded place I thought very secure) had
been destroyed by negroes - since then
however I've been fortunate eno^{ugh} to
find others wh^{ch} I'm now watching -
but wh^{ch} at any moment may share
the same fate! There consist of 1st
a yucca fil^{ix} at Huntington I see
plants, a rough drawing & description
of wh^{ch} I send you - still in bloom,
about 10 days or two weeks ahead
of others (by diff^{erence}) in the same
field, about a mile off - but growing
in precisely the same soil & exposed
to the same influences of "wind & weather".
The last - wh^{ch} we will designate as No. 2
has run up with the speed of Laetia's
Bean-stalks or Salsabi's grass, & are
now (the flower stalks) 8 or 9 ft
high, - (one indeed about 10 ft if
I'm not mistaken) & purple from
top to bottom, & by that I mean a deep
claret colour - the leaves, buds &
wh^{ole} beneath being of the same
colour. Ramble so far as I can
judge, will be composed of few
racemes, & few flowers compared
with No. 1, & commencing high up



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Rev. May 30th 1871

No 1

from Dr. H. C. ...

Yucca - filamen (L.)

Hunting Gold
Plant on
May River

May 28 1871

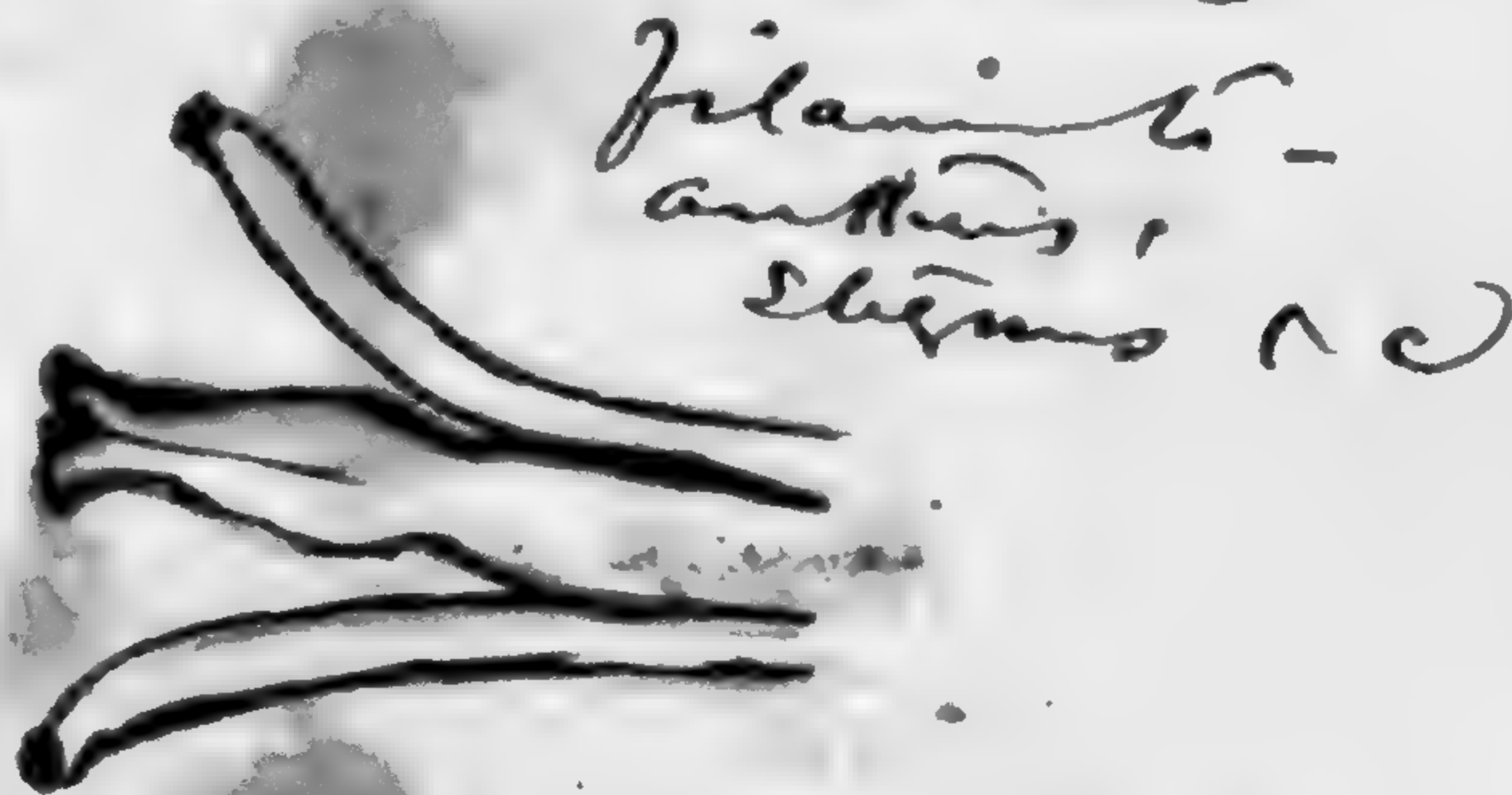
Root small so that the plant is easily moved about & shaken. Stem from 4 to 5 inches, stout & very leafy; leaves rather rigid, but smooth & of a pale green, especially the older - which have but few filaments & are broad-lanceolate & somewhat pointed. The younger leaves narrower - linear-lanceolate, with fine thread-like filaments. About 28 inches long & near 1 1/2 broad (older) not ~~very~~ acute, - somewhat abruptly pointed (though not approaching in this respect the "Slits Pl" plant) spine short - rather blunt; - never recurved or flexible, but retain their rigidity when spreading fan-like from the stem.

Flower-stalk from 5 to 8 feet ~~long~~, very soft & smooth from top to bottom, & of a pale ~~green~~ green colour. (somewhat yellowish cast - like that of *Glossidium* ~~latifolium~~ ^{Floridanum D. J. Parry}) Panicle pyramidal, the racemes commencing rather low down ^{about two-thirds} on the scape, & spreading wide with many flowers & buds (12 to 18 on each).

Leaves of Panicle white with a tinge of green, interior much wider than outer - oval-lanceolate former 1 1/2 inch in length - latter 1 5/8. Pedicel 1/2 inch long with 2 bracts at its base - the outer half as long as pedicel - inner still smaller. Filaments white - recurved - ~~rather small~~, ~~yellow~~ ~~not~~ about half as long as corolla, - pubescent; anthers small, yellow - oval (?). Stigmas 3 - recurved - sessile - 2-cleft.

Flower-stalk

Spines up pale-green - almost white - like a tender shoot of asparagus & not clothed with strong & acute leaves as in another variety of Y. b.



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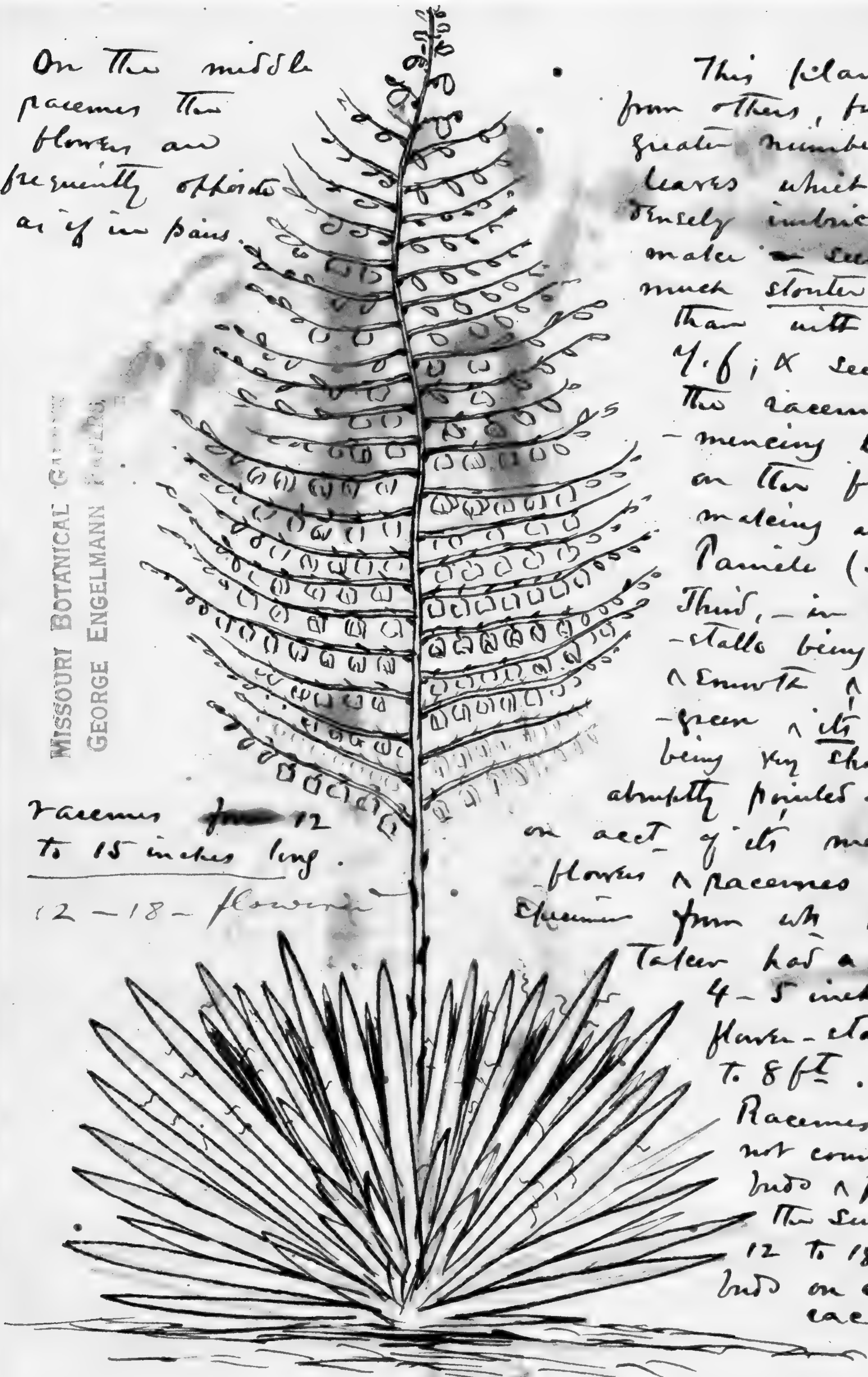
MISSOURI
BOTANICAL
GARDEN

On the middle
racemes the
flowers are
frequently opposite
as if in pairs.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Racemes from 12
to 15 inches long.

12-18-flowered



This plant differs
from others, first in the
greater number of its
leaves which are so
densely imbricate as to
make a seemingly a
much stouter stem
than with others of
y. f. & second, in
the racemes com-
-encing low-down
on the flower-stalk
making a Pyramidal
Panicle (somewhat).

Third, - in the flower-
-stalks being very soft
& smooth & of a pale
-green & its leaves
being very short &
abruptly pointed. Also
on acct. of its many
flowers & racemes. The
specimen from wh. this was
taken had a stem of
4-5 inches, -
flower-stalks 7 1/2
to 8 ft. 40
Racemes or branches,
not counting the
buds & flowers at
the summit &
12 to 18 flowers &
bud on each
raceme.

In full flower on the 20th of May '71.
- the above represents the racemes too
much crowded to gether, - the panicle
not being ~~so~~ as dense & compact
but that is the tendency of its
growth.

(2110)



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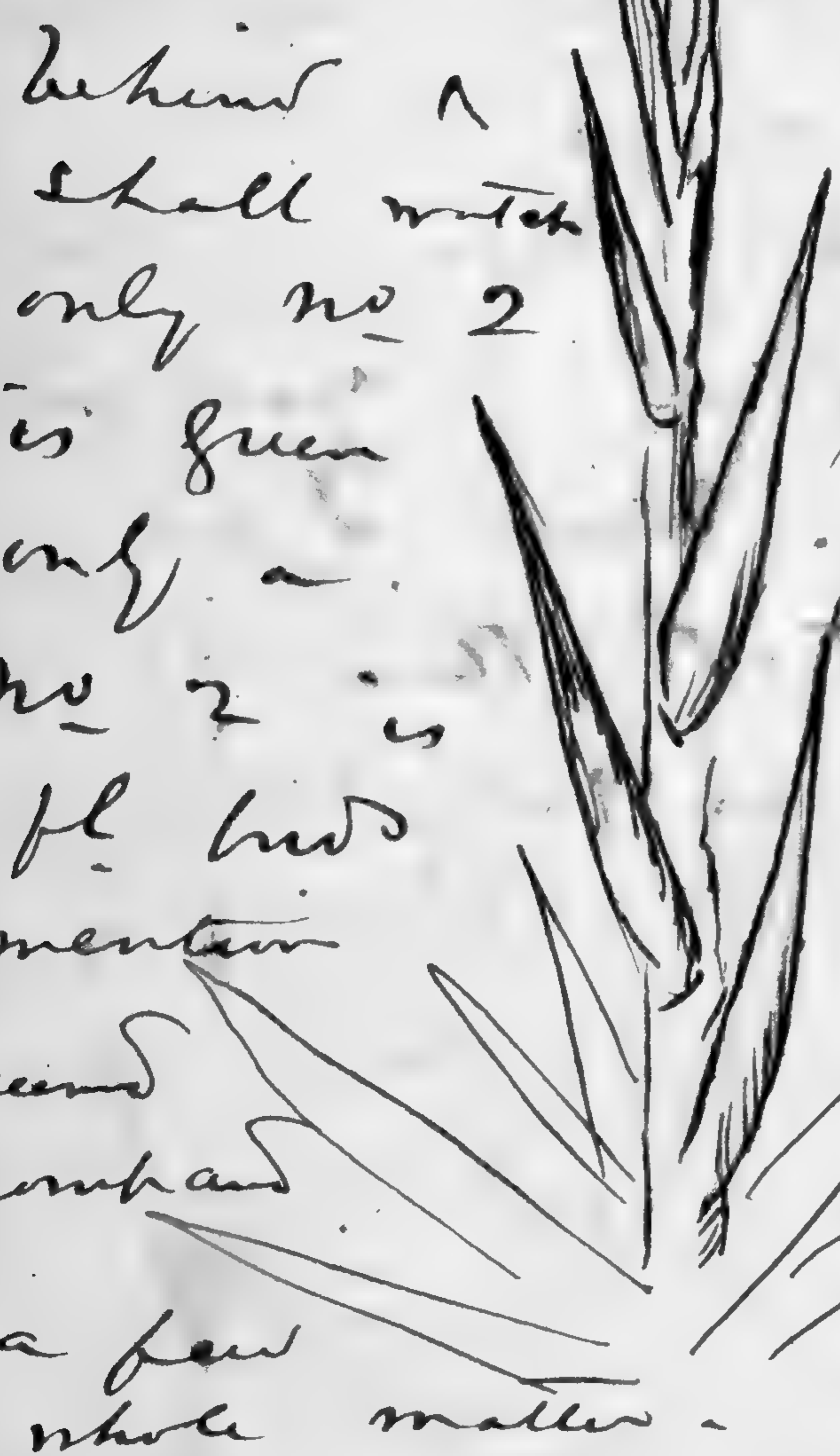
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GARDEN

G. Mellichamp. May 23. 1871

Now still further off in same field
is no 3 wh for ought I know is only
the young & undeveloped fl. stalk of no 2,
but the stem leaves are not so long, nor
so very smooth, but rough, - shape
very much the same - acute with sharp
spine. Flower stalk now 4 ft high
a very robust & clothed with long, sharp
pointed leaves completely concealing with
its sharp bristles the slender flower
buds, - as thus. This 2 or 3 wks



behind a } its flowering stalk I
shall watch } with int. Possibly
only no 2 } - but the fl stalks
is green } a bronze colour, with
only a } faint purple: whereas
no 2 is } deep purple from
fl buds } to base. I did not
mention } that racemes in no 2
second } to be very far apart
compan } with no 1. But
a few } weeks will settle the
whole } matter. Of these leaves you have

~~all of the~~ specimens. I wish to
send you complete ones, but I do not wish
to trust them to mail - especially the
well kept racemes etc. When no 2
matures, will send complete sketches as
now I send no 1, & so on with all of
them. No indication whatever as yet
of the few y. fls blowing this yr - here my G.
G. Kineman will be written out for you
as well as for the abruptly pointed fl.

G. Mellichamp



on the ~~stem~~ flower-stalk. In
this respect very diff. from No. 1.
Leaves of flower-stalk (not for the
ye is not so smooth as leaf on
No. 1) are large & more acute,
& the stem leaves few & loosely
imbricate & very long & flexible
smooth & gracefully recurved -
precisely like the specimen sent
from Seabrook's nursery. Old
leaves with no ~~flat~~ threads - seem
to have been stretched in younger
leaves filamentous. Now I am
pretty well satisfied that this is
very diff. from No. 1 as you will
see when you read the description
of that. An examination of
the flowers in 10 days will
decide, - I shall have in ex-
-amining a small bud I thought
I could detect that the anthers
were sagittate which is certainly
peculiar - not so in No. 1. but
that condition here it seems (E.H.)
in *Y. floriana*.

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS




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MISSOURI
BOTANICAL
GARDEN

Nov: Jan 9 1871

P.S. Please overhaul, if you still have them, the
various Capsules of Y. f. which I sent. You will re-
member one from Hunting Id rather smaller, (?)
thinner, & of a paler colour than others & also com-
-pressed somewhat in centre - . This I believe to
be Y. f. 7101, but the patch of Y. f. at that spot as
I told you were Belting's & negros. Another - started
a almost black from New River (Lebanon). That unless
I am greatly mistaken is Y. f. 7102. 7103 is
mid-way between them with I suspect. UNM.



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[Faint, illegible handwritten text on a document page]



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MISSOURI
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GARDEN

Yucca filamentosa

June '71. (No 2) Hunting get B. B. 2d.

Root small, - stem stoutish (3 or 4 inches) - few-leaved. Leaves deep green & very smooth on both sides, - the younger broad lanceolate, with rather few fibres - with an seemingly short & coarse; - The older with very few or none, - lanceolate, - very long (from 2 to 3 feet - 4 inches) & gracefully recurved - not at all rigid - but very flexible, & gradually tapering to a point, - The spine (?) being strong, & rigid & sharp. Flower stalks from 8 to 10 feet high, of a deep purple throughout, - the lower third being partially clothed by the longish & strong spined leaves. Racemes few for so tall & robust a plant, & commencing not low down as in No 1, - but at the base of the upper third of the stalk, - namely therefore of not the height - not so pyramidal as in No 1, - rather conical. Leaves of the perianth white & tinged with purple, - inner & outer leaves of about the same length (2 inches long - $1\frac{1}{8}$ wide.) former, ovate-lanceolate, - latter more narrow, - somewhat clawed (?). Flowers single - but most generally by pairs & springing from a summit by the same bract or sheath, - the outer leaf or bract enclosing the two smaller - which embrace the

* Pedicel (?) Bract half as long as pedicel - inner smaller.

* Pedicel, $\frac{7}{8}$ of an inch, - stout & thick, - greenish purple. Stamens same as in No 1 - filaments being white & recurved, - anthers small, & at the expansion of the flower small & oval (?) - but when in bud eggshaped, [I observe the same in No 1] filaments $\frac{7}{8}$ of an inch long, stigmas 3 - elongated (?) & cleft each into a deep serrature (?)

& very slightly recurved - or expanding. Flower stalk in this specimen bent at the upper third where the racemes commenced, - I suspect this condition generally holds with all of this "Variety" (?). The distinctive signs therefore as compared with No 1, are, - the long smooth recurved & flexible leaves with strong & sharp spines, - the comparatively few leaves, - the deep purple stalks partially clothed with leaves, - the larger flowers (2 inches) of a purplish tinge, - the very much longer style stigmas &c than the stamens; the deep serrature of the stigma, (not near so distinct in No 1) & the commencement of the racemes high up on the flower stalk. In the end from which this description was taken there were only 16 racemes, & 14 buds above them springing from summit of fl. stalk & from 12 to 18 flowers on each raceme. But above all, the flowers in pairs on stout pedicel (?) springing from same bract.

Revised?

MISSOURI BOTANICAL GARDEN
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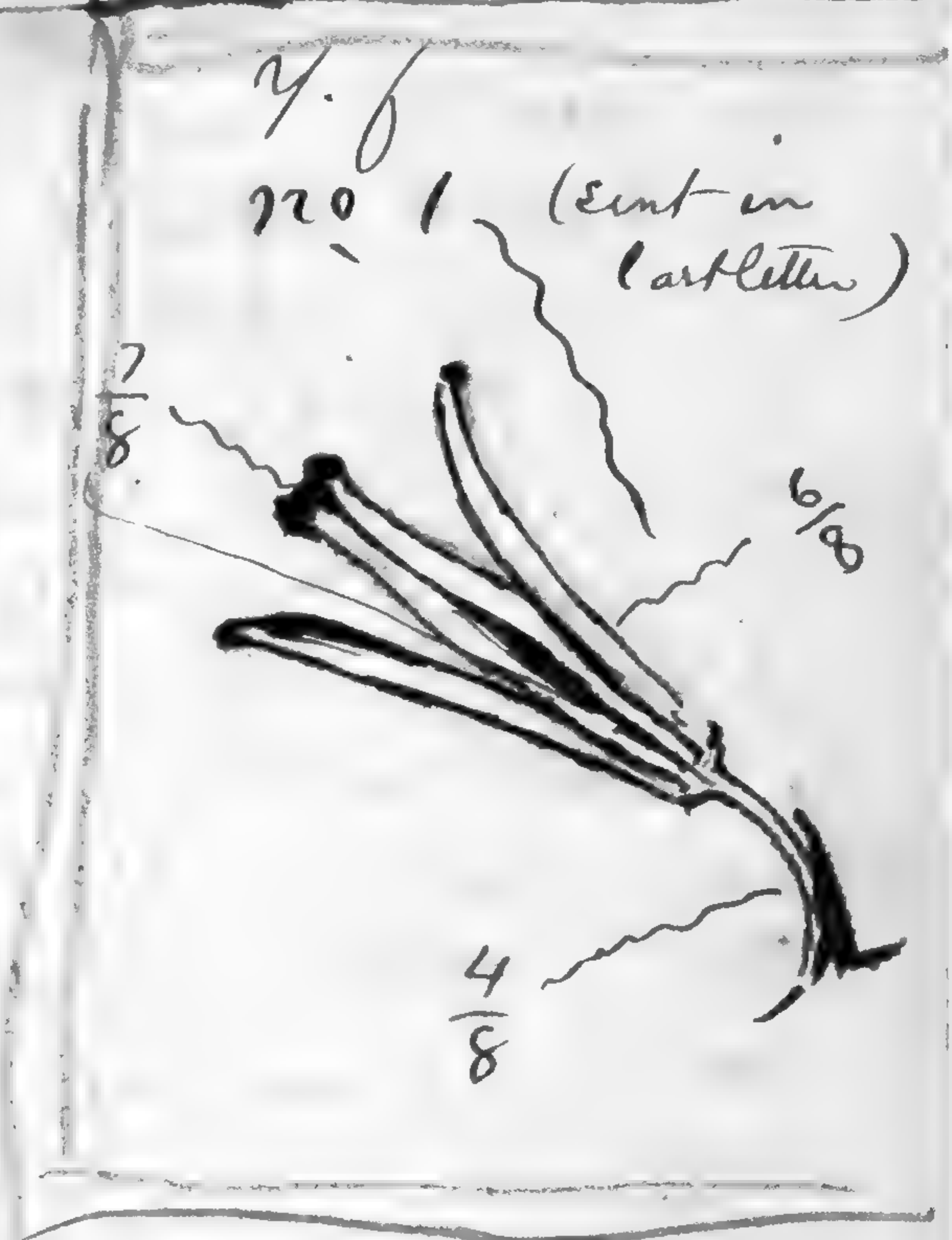
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MISSOURI
BOTANICAL
GARDEN

Hunting Island Plantation
 1804 River, near Beaufort
 S. Carol.
 Dr J. H. Mellichamp
 June 1st 1871

(No 2)
 Flowers mostly by
 pairs springing out
 of the same bract
 or sheath - in
 No 1 so far as I
 know they are
 single, - though
 frequently they
 seem to be in
 pairs from
 them being im-
 -mediately opposite
 on opp^o sites of
 the stem.



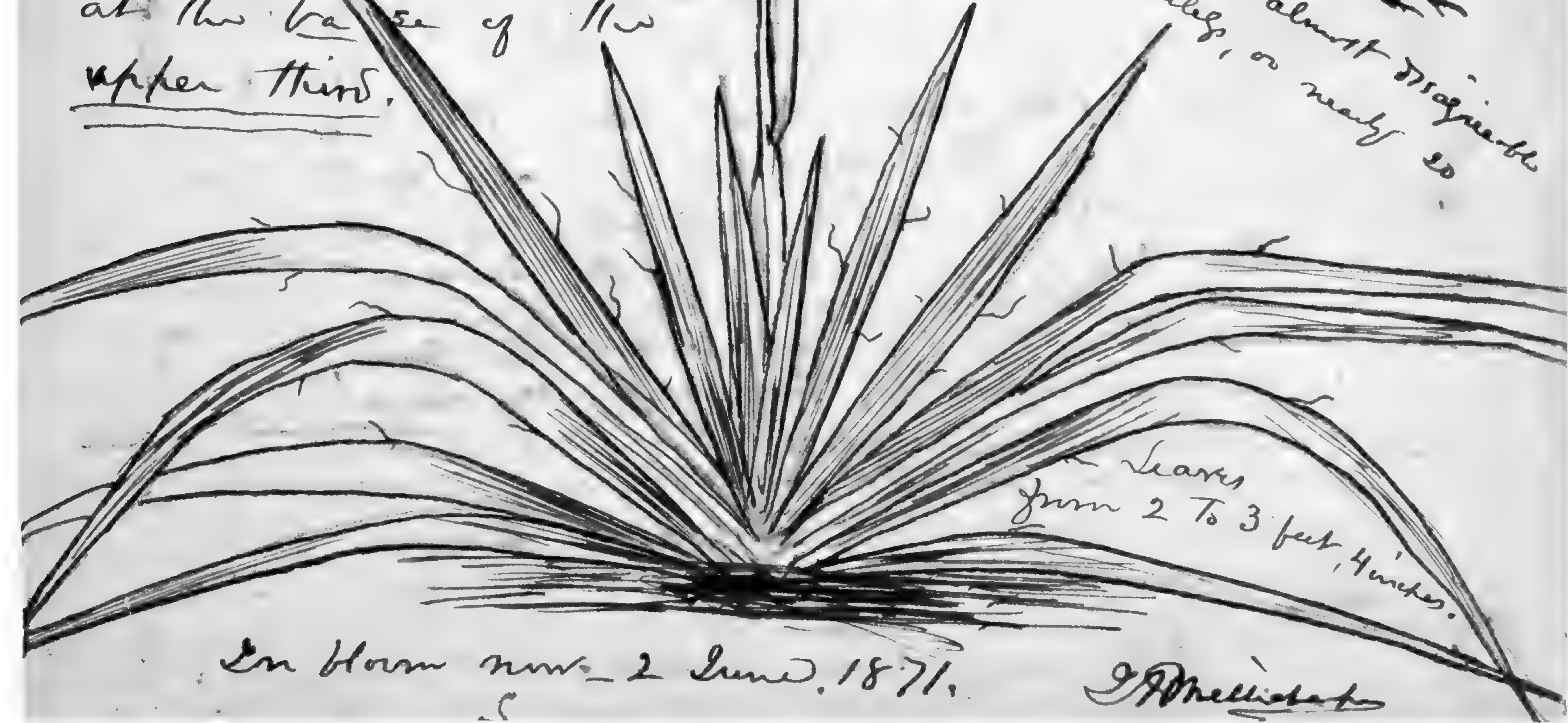
No 2

Yucca-filamentosa
 (purple stem)
 flower-stalks)
 8 1/2 feet high.



No 2
 No 2
 flowers of a very strong & almost disagreeable
 low - no 1. double, or nearly so

racemes are repre-
 -sented as commencing
 low down on the
 scape, - they com-
 -mence high up
 at the base of the
 upper third.



In bloom now - 2 June, 1871. J. H. Mellichamp

Recd June 9th
in 15th Engelman

Bluffton C. 2 June '71

my dear Sir, In my last letter written a week
or ten days ago I told you that I believed that
I was not on the trail of, if not 3, - certainly 2, well
marked "varieties" of *Y. filamentosa*, - at the same ^{time} En-
-closing a description, with rough drawing of *Y. f.* No
1, & also specimens of the flower & leaf. I called your
attention especially to the soft pale green fl. stalk with
yellowish cast, like the "glottisium Florsarum D.C." (if
you've seen that!) & also the commencement of the
racemes at the summit of the lower third of the fl.
stalk - x c. x c. and I remarked that I was then
watching with int. the very tall purple stalked No 2,
& also the another, 2 weeks still behind, very robust
& stout, & completely, or rather to a great extent
clothed in leaves, & which I thought it not unlikely
was still another, - presenting many differences; This last
one will designate as No 3, & is still too immature
for examination, but I already prophesied a rather
short the robust fl. stalk, with very few racemes, com-
-mencing still higher up than in No 2, & few flowered,
- also, that the upper portion of the fl. stalk will be
full of small rounded protuberances, - call it varicose
for the time being! You will find all I have
to say of *Y. f.* No 2 on the other page: A sad jumble
I see, but I've tried to be exact & accurate, & you
can disentangle! I believe No 2 is the plant from
Seabrook's new River, - almost sure of it from the leaves.
I have not been able to go there, & in vain have I solicited
the friend who sent them, to let me have other specimens.
Such you see is the indifference of the Lairy (or shall
I say Camaille?) to any pursuit which does not yield
bread or money! But for Texas there's been end for us
all now in this regard! And now let me tell you
my dear Sir, that you came ^{truly} near receiving with
my last letter your last "invoice" of Yuccas from
this work & corner of the globe! It was only a day
or two since in the cool of the afternoon I bet myself
me of taking a stroll in the fields about "Hunting
Iced" for the purpose of examining the "purple stalked
Yucca, & making a rough drawing of the same & c.
... I had succeeded in doing so, & commenced myself
of the distinction between No 1 & No 2; so before
taking my leave of the ground - concluded to extend
my walk to May River, (a few yards from me)

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MISSOURI
BOTANICAL
GARDEN

—thinking I might get a glimpse of ~~some~~ a gloriosa
wh might possibly be blooming, & wh I might see for a
mile, — shimmering white & ghostlike, on one of the little
isles across the stream, wh was brimming high with
the highest tides of the year. I was standing on over the
old cotton bed, — sprinkled here & there with brown-grass,
— when, ("hoversc reprens"!) I almost stepped upon
the most horrible reptile of our sea-coast, — a rattlesnake,
(*Crotalus adamanteus*)! The first indication of his
whereabouts, wh I had, — was a tremendous flut, but whether
he struck at me or not I am unable to say, —
possibly his snake ship was as body scared as myself, but
a step or two more & I wud have been on him, as he
was immediately in my path. And now the rage & fury
of the monster was beautifully exhibited, & all his "hell-bells"
— a-ringing" as they say, — the air resonant with the
everlasting rattle, for they seemed to rattle & left, — in front
& behind! He had immediately thrown himself in a coil,
— his head flattened, — his neck arched, — javelin like,
& his eyes bead of fire —! Stunned as I was by my
narrow escape (for I was almost upon him!) I
could not but admire the ~~extraordinary~~ beauty of the terrible
reptile, & remember the excellent description of our old
Prof W. H. Holbrook of Chelms, — "a more disgusting & ter-
— rific animal than this cannot be imagined; its dusky
colour, bloated body, & sinister eyes of sparkling grey & yellow,
with the projecting orbital plates, combine to form an expression
of sullen ferocity unexampled in the brute creation". It was
not long before I killed the beast" — cutting off his rattles,
& hanging him up on a cedar tree as a warning to his tribe!
He measured between 5 1/2 & 6 ft in length, but it was
his girth — his "bloated body" with its "dusky bands" wh
gave such an appearance of size & greatly proved that it was
almost Sun-down, & 2 or 3 miles from home, & alone, — I
fancy my condition of hopelessness had I been struck, for
I have seldom known a recovery (even after the most prompt
treatment) from the bite of this peculiar species of *Crotalus*.
I enclose you his rattles, only 11, counting the button, — I have seen
them 18 if I mistake not, & 2 yrs ago I killed one on a rock
near here from 6 to 7 ft. But I write to you to give information
as to the genus, &c! I am off on Herpetology; — my
fear is that I was body scared, & the horror has not
yet worn away — seriously, I was in great peril & I very heartily
Thank God for my escape. You last of 22. my ~~dear~~ what
I have to say of him I'll give in another letter, — not close
keeping in mail — the true condition now of P. Ell. — The ~~state~~
recovery of cones or sent. I had already noted the central growth
of axis of P. Aus. & now have an instructive spec. in (P. Ell.)
sk. of wh I send — measurements accurate. yours
E. H. M.



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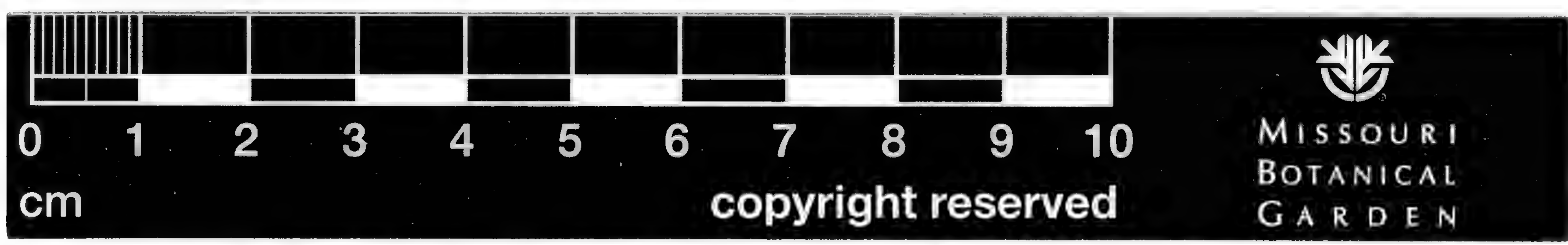
MISSOURI
BOTANICAL
GARDEN

The bloom of 2101 long since over - & not
a single forming *Bluystron* capsule
on the only 3 stalks ^{wh} 15 June '71 flowered!

D. Geo: Engelmann } N. East of 22 May
Rec - June 24 my 28 } 9th in due time
and Aug 13 } & will answer yours.

I've written lately - please hasten the search wh I hope you can finish.

In my two last
letters I sent specimens of what
seemed to me were marked varieties
of *y. filamentum* wh I designated as
y. no. 1. & *y. f. 2102*, the former flowering
about 20 May, - the latter - 1 June
& later. I called y^r attention to the
soft, pale green flower stalk (of a 7th -
last cast) of 2101, & especially to its
large pyramidal panicle - the racemes
of wh^{ch} commence low down on the stalk
much lower than with any others wh^{ch}
I've examined. Flowers & leaves sent, &
described. In 2102 - flowering 1 June
(& still in bloom, tho' fast-waning) I
I remarked upon the invariable
purple stalk, & its height, 7-8 & 10
feet - partially clothed with hairs & its
panicle commencing high up on
fl stalks than 2101, & making a
more conical panicle when racemes



were stout & more robust than in
No. 1. Leaves very long - These flowers
also sent a description. No. 3 which I
remarked to you was stem behind -
- hand is just commencing. To
show a hairy compound it with
No. 2 but a few feet a-hand in
the same field. I have not but
doubt that this also is perfectly
distinct & holding an intermediate
place between No. 1 & No. 2! The
leaves & especially the dried stems
& stalks of all of them I had often
examined during the winter & when
they come to shoot with the spring I
was not unprepared to meet the
various distinctions of form, colour &c
which seem now to separate them. As for
No. 4 ~~the~~ of which I well designate your
Y. fil. (Vera) of the 7 Barks I have
been very anxious to see how that
behaves, but the few which were left in
the "Trimbles" field after the larger
were dug up by negroes (as I wrote you)
- have not bloomed. It is not unlikely
however that my J. J. friend, have
purchased a piece of land of this for me
& my father in the same country promises
to dig up if he comes across it which he has
not yet - This he has just sent me leaves
collected by a neighbouring doctor - two of
which I enclose. No signs of flowers
yet - I have soon to hunt up a little
else ~~near~~ in my Pa. when I may
find it & also get the bark of Y. D.
Very truly & respectfully
J. G. M.



Revised edition of June 15th
June 24th

15 June. 1871

Yucca filamentosa Torr (710 - 3)

Stems low - 1 to 2(?) inches, not stout,
(18 inches to 2 feet)

few leaves. Leaves, paler green than

No 2 - same colour as No 1 - rough

on upper surface - linear lanceolate

(inner sometimes much broader) erect

& partially recurved - gradually tapering

to a point - spine sharp, but not strong

as in No 2, easily bent when pulled up

- same condition, holding with leaves

of fl stalk, spine ^{being} weak & tender, (not so

in No 2) Fl stalks from 4 to 5

& 6 feet - colour at first a little purplish

gradually assuming a greenish bronze -

shoots up at first with great vigor & robustness

& partially clothed with leaves which are almost

planted around it. Panicles still higher

up than in No 2, the racemes of which

are somewhat compressed against the fl stalk

- sub-erect (?) - flowers themselves seem still

more crowded together. Leaves of Panicle

large, longer & more & broader than No 2, white

with a greenish tinge like No 1. - outer leaves

much more narrow than in either No 1 or 2

- single & of pairs. Racemes short & generally

fewer than with the others. Pedicel or

peduncle will you see it - stout, & thick,

short - $\frac{3}{8}$ to $\frac{4}{8}$ inch. In all of these

plants & among (some 15 perhaps) a spring in

some field with No 2 I observe one especial

peculiar which strikes me when examining the old

direct fl stalks of (No 1) No 2, as soon as the

plant commences to bud & ~~the~~ the upper ~~part~~

particular portion becoming ~~smooth~~ rough channelled

& corrugated - somewhat ferruginous. No difference

in style - style - anthers as from No 2

same description will hold - but as I remarked

No 1 are I think more & broader & outer leaves more narrow

MISSOURI BOTANICAL GARDEN
HERBARIUM



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MISSOURI
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GARDEN

1
2
3

Q. filamentosa
No 3. in

blown 15 June.
stem fl. stalk
mostly very stout
& thick for its

~~the~~ height of
it is frequently
4 1/2 to 5 feet,
occasionally six ft.
& over, - generally
low: fl. stalks
of a greenish bronze
color - panicle
compressed, & between
the racemes
somewhat seamed
& wrinkled,
- perispermous.



May 20
June 1-15
June 15

(very stout)
I cut a fl. stalk of about some 3 weeks since, almost
completely bleached with its leaves - ~~greater portion of it~~
~~is already dry~~ but & hung it up in my house, It
is now putting out a weak & tender pale green
panicle consisting of 3 or 4 racemes. About 1/3
of the stalk is perfectly dry - yet I expect
the buds to bloom into flowers - in perhaps
ten days or two weeks. In brief I may
mention that I have not yet examined a spec. of fl.
in flower which I did not find completely encumbered with
a foul swelling & squab by (*Coccus tristis*?) This was
so with all - nos 1, 2 & 3 - white miller moths (small)
always to be found in the flowers!

Rec^d July 18th
Aug 13

Boston 10

To

12 July 71

Dr. Geo. Engelmann -

My Dear

I send you by this mail
a package containing specimens of
Pinus Australis wh. prove I think
that the position of the cones is always -
(or more properly) - usually lateral. I
have not been able to examine with
care more than about 10 different
trees - obtaining some four or five speci-
mens from each one. The result al-
-ways the same, - trees were either
large or very well grown trees, - but
one one wh. was something of a
sapling exhibited a remarkable elon-
-gation of the axis beyond the cones - of
some 3 1/2 inches! One other specimen from
the same tree (about 30 feet high) was
nearly as long, & so far as I can see
I judge this condition to be general.
On all the other trees examined (wh.
as above remarked were well grown)
the elongation was general, varying from



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an inch to near an inch & a half &
always pushing out leaves above the cones.
I am much inclined to the opinion that
by this time (July) the growth is pretty
nigh over — except perhaps on the very
young & robust trees wh^{ch} hopefully may
still go on advancing somewhat, — and
my reason for saying so is from an
examination wh^{ch} I made yesterday of
certain old & dead branches wh^{ch} I had
taken in the Spring from a tree just
cut & wh^{ch} had remained hidden in the
wood. I send a specimen to you wh^{ch}
I think you will find in other re-
-pects too most instructive & also a
drawing of the same with my elucidations
(!). You must place the broken end to-
-gether to compare with my rough
sketch & you will immediately observe
what I take to be the regular elongation
above the cones — one year $\frac{3}{4}$ of an inch
& another a full inch. Or am I mis-
-taken in this matter? — you will see,
I am your learner but a raw recruit
& I draw my bow sometimes only




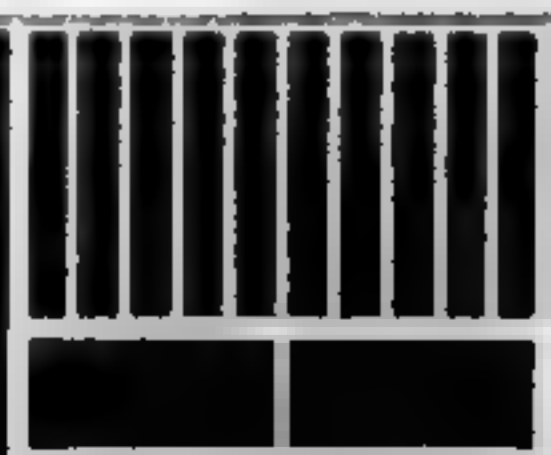
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at a venture! I said "usually, lateral"
instead of "always", because I have ob-
served on one or two trees branches where
- or the cones apparently are still apert
but I was unable to examine them
closely. I was pretty well satisfied how-
-ever that these ^{brownish} little cones which I saw
stick sticking out from the leaves - thus, -
 were either dying or dead, & well nigh
mature, apparently from want of vigor
in the tree & that as they could not mature
so neither was there strength enough in the branch
to push out a fresh bundle of leaves beyond
them, as no doubt is usually the case.
By the fall however doubtless I shall be
~~more~~ better informed, still, I think my dried
branchlet sent is pretty conclusive. What
say you? As for the falling of the leaves,
it is now a very difficult matter to
find a leaf of 1869 on any well grown
tree, tho' of course it is not (I believe)
uncommon on all vigorous & much
young saplings. My impression is - The
older the tree the less the tenacity of
the leaf, & the shorter the elongation of
the axis beyond the young cones.



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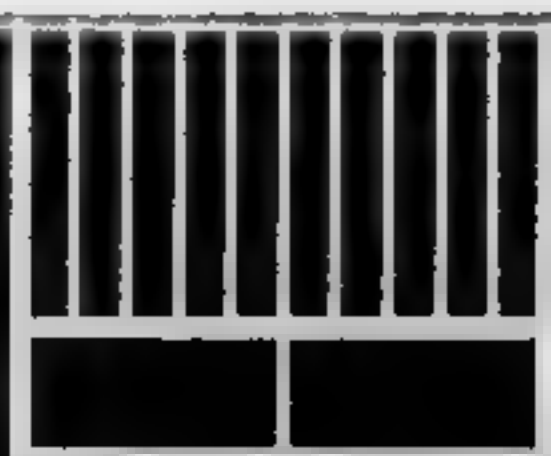
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A gentleman whose plantation is at Red Bluff
near the mouth of New River & in sight of
the Tybee lights (Savannah River) to whom
I showed my specimens of leaf & cone &c of the
"Pinus Elliptica" tells me that the tree grows
on his place & is one of considerable magni-
-tude. It is a long distance from me, but I trust
I shall get them this summer as I shall be
able to satisfy myself perhaps whether *P. Elliptica*
& *V. heterophylla* be indeed the same tree &
what you tell me of the young being night flowering
is most remarkable - I regret to say that it has
been out of my power to visit it here as these plants
are away off in lonely & deserted fields & my horse
just being dead (alas!) I have no means of
getting about just at present. Although I have
examined a great many ~~plants of~~ flowers
of nos 1, 2 & 3 (only 3 plants however of the
first escaped the hoe.) I have not been able
to detect any variability in the pistils &c of
each kind but all invariably differ from
each other as I have attempted to show you
- especially in rough drawings made when the
flowers were fresh. Evidently by far the greater
part of the flowers are sterile (judging from the
few with mature fruit) but I cannot see any
distinction in the flowers of any ^{one} variety - they
differ in a marked degree from each other.
In my last letter I sent flowers & leaf of no 3
with drawing & description which I imagine you
read. As for no 2, the spine of the leaf is al-
-ways very sharp & strong & on the old leaves a
few coarse filaments - more abundant on the
younger leaves. This is the tallest generally of all
(fl. stalks), - purple, & rather more abundant
than any other about me. I am satisfied that
this is the same as the Seabrook plant from
New River - have not been able to get them yet,
nor has the plant been since sent me.



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GARDEN

Ac July 1871 (5)

I shall the first time I examine these plants again count the leaves as you suggest. I am however pretty well satisfied that these "Varieties" are well marked. I send the racemes & flowers also of the three in the package, & one of them says may be able to send still more complete specimens. As for the "Stiles P¹" plant (y. f. Vera) my friends seem to have forgotten their promise! — too deep I suppose in "S. isle" at present ~~I imagine~~ to think about such small things, but I may hear from them yet. The glaucous about here have not bloomed yet & will not this year I think. The California Queen seems different from all the rest — Mr. Ravenel has sent me one from Arden which I conclude is the same as the "Stiles P¹" plant & also the "Fort Motte" & one from middle country sent me by my father & the leaves of which I enclosed to you in my last. Does not any No 3 correspond pretty much with the St. Louis plant? — pubescent I think & somewhat ferruginous.

Very truly
yours
A. D. Sargent

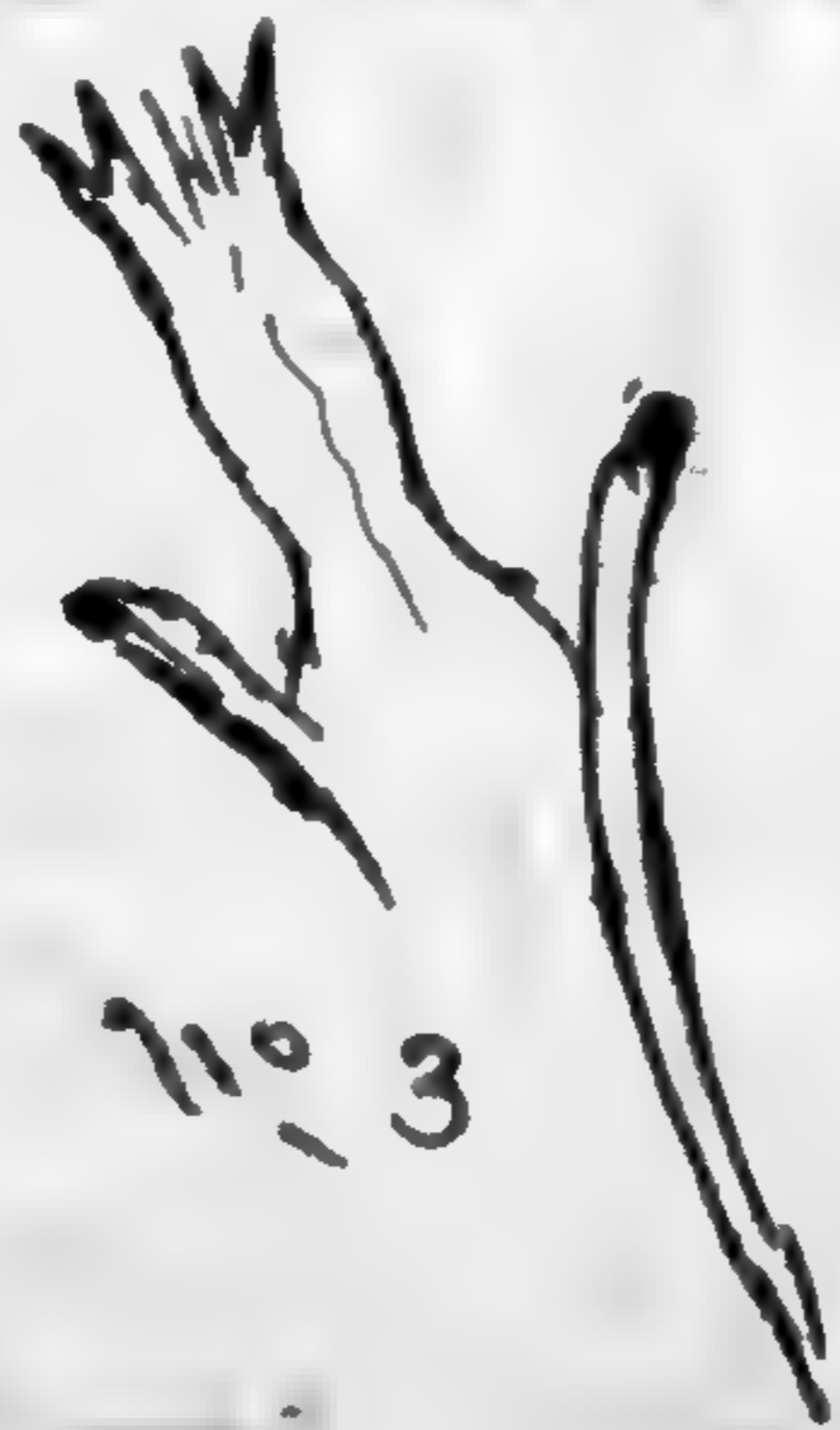
No 1



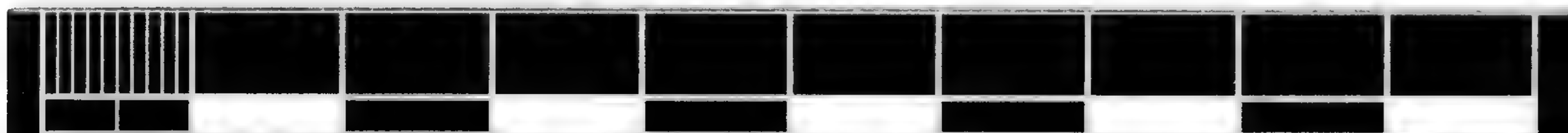
No 2



No 3



y. filamentosa?



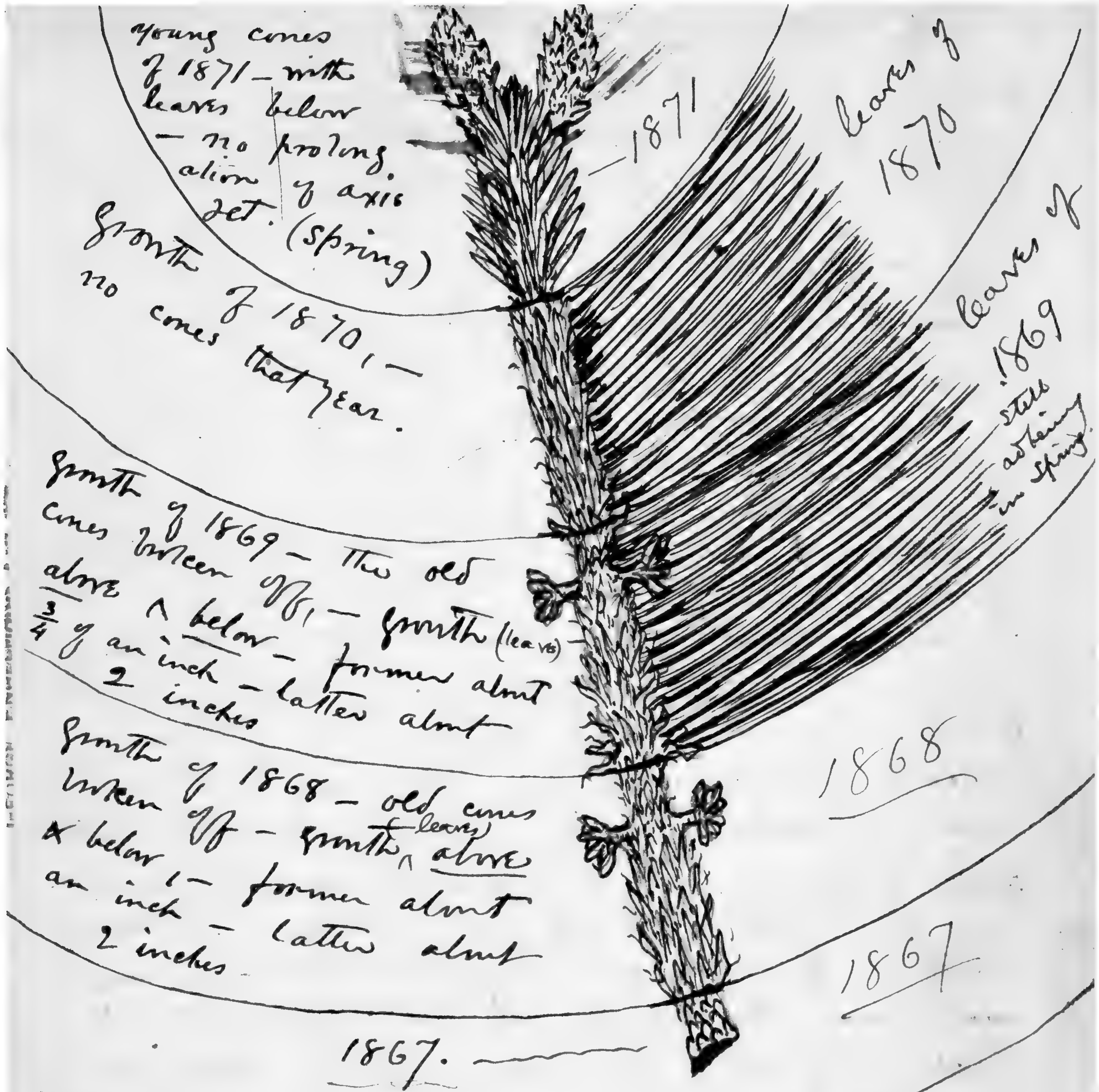
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GARDEN



The above is a drawing of a dried branchlet of "Pinus Australis" which in the Spring I had ~~just~~ hidden in the wood & which I examined yesterday. ~~It is interesting~~ I found the leaves of 1869 still clinging as represented above, - by this time (12. July) they would have fallen, some time therefore during the third year (counting from Spring to Spring) the P. Australis drops its leaves - generally I would say from the 25th to 28th months in well grown trees - in the younger they may be retained months longer I think.

A. M. S. 1867



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recd July 18. 1881

P.S. - I enclose also sproutings from pines posts
wh^{ch} were cut in March & placed in position
to support my garden palings. They were won-
derfully green & beautiful, at first - now almost
dead. How they sprouted in this singularly dry
soil of ours is a mystery. I believe they are *P*
Serrata - but not sure - my man Horan freely
~~gave me~~ (claw & valuable women !!) a half
bushel - mess, told me that he cut them down in
the low ground. You will find 4 & perhaps 5 leaves
in a sheath. I send them as they may be of int^y.
Also seeds of the Cactus wh^{ch} I told you grew only
in Beaufort - the fruit of wh^{ch} is large & edible.
An old friend of mine a Dr. Guérard brought them
to me from Bth & planted them at his "Point
Place" on the Okatee. I visited them a few weeks
since & found that they had been unable to stand
the intense cold of last winter, - all killed - a
few however were sprouting again wh^{ch} I brought
away & have planted in front of my door.



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Hope to send you a specimen - said to have been
brought by the Spaniards from St. Augustine Fla.
- leaves somewhat tongue shaped & pale

Will send at another time this with
our other cactus, (*Rafinesquina*?) The
flowers of which I now enclose also in the
package - as well as the only found on
the sandy slopes of the Pine Barren. (*Quercus*
Arenaria?) - grows not over 8 ft high - mostly
a small shrub - new to me. The weather
has been for some time past the hottest
we have experienced here for many years -
it is something "terrific" to me the strong
knowledge of my neighbors - How is it with
you?

Your last was of date 13. June -
My plan to get a letter but I insist
on not keeping pace with me thro'
Courtesy as surely y^r time is always ac-
-cepted.

LAD



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



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PS. The last package (1)
contains *P. glabra* with cones of
'70 & '71. Bluffton SC
22. Aug. '71

Recd Sept 2

D. Geo. Engelmann

My dear Sir,

Your kind letter so replete with
interest for me came to hand in due time,
& I shall now attempt to answer your queries as
well as I can;— but let me premise by
saying that our usual September "blow"
has been anticipated by two or three weeks— in
a pretty sharp gale on the 18th, & also two
days after, which protracted many a "pinus in-
-sens", affording me therefore my good opor-
-tunity of examining both *P. australis* & *Ellis-
-ii*. And first as to —

"Pinus Ellisii". I have now been care-
-fully watching this tree since ~~last~~ fall, & I
am surprised that I should so long have con-
-founded it with *Taxa*— for it differs materially
from all other species about me & is without doubt
— perfectly distinct;— I may say however for
myself that I never did examine it, — I but
looked at it, until my attention was attracted by
the two leaves & the peculiar cone. If you will
excuse my continued pesterations I will need



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(2)

now repeat the "Signis distinctis", - in its early flowering, its very abundant pollen, its invariably 2 or 3 leaves, & ~~the~~^{its} bark, which comes off in long flakes & scales, (upon which one might write a very respectable note!) Add to which the early recurring of the young cones in the spring, so that by this time (& indeed long since) they are close upon the stems. [*P. australis*, *P. Texas* & *P. Serotina* have their young cones still erect, or at any rate partially so, - certainly no recurring at all, - the same I suspect holds for *P. glabra* & *P. Mitis*, but can't say accurately as I have not examined them for 2 or 3 months.] Next, in the peculiar "slopy brown" cone (of various shapes & sizes however) & its early & abundant dropping. A large tree growing in a swampy "gall" near me was thrown down on the 18th immediately across the road, & having been cut ~~down~~, a good opportunity was afforded me of counting the annual rings &c &c which you perceived me to do! About 15 feet from the base of the tree the measurement including the bark was 22 inches in diameter; the sappy portion including bark was 3 inches, - the heart wood therefore was about 18 or 19 inches. On acct. of the profuse & paper exudation of the resinous juice I was unable to count the rings with perfect



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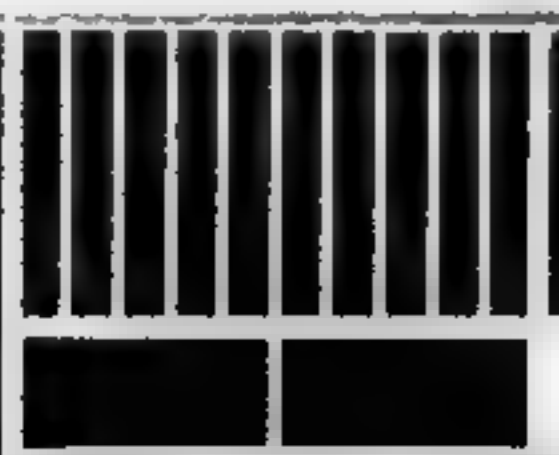
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accuracy, - especially those of the sap, - between ⁽³⁾
wh in some places. There was scarcely a hair's
breadth, but I think my approximation is
quite close enough! I find it thus, - at
the same place - 15 ft from base of the tree, -
74 annual rings of the Heart wood, & about
60 (perhaps 70) of sap - the tree then
being about 134 years old (?) - a goodly
age enough! The rings of the heart were rather
far apart & the wood very hard & coarse,
& I doubt not durable, from what I've been
told, - The rings of the sap fine & close as
above mentioned. As regards width &c &c and
appearance, you will yourself better judge from the
specimens I shall send you, wh will be typical
of all well grown trees wh I've seen. I have
had a good bit of the bark & wood deeply
cut from same tree wh possibly you may
get one of these boys - wh you desire it!
I believe that more resin exudes from this tree
than any other I know about me, with from what
I myself have frequently witnessed & the state-
ments of wood cutters. One of these - an ex-
perienced & reliable man assured me that there
was less sap wood in this than the other
trees about that I can't say, as I have no
experience in such matters as to what may
be much or little sap, - perhaps you can
decide as to the relative proportion from the
measurements above given. As to your query
as to the time when it commences to make
heart wood I can not say, I only know
that in the younger trees - of 40 feet or
thereabouts the wood seems worthless & mostly
sap, - almost $\frac{2}{3}$ I shall say, but with
the well-grown & old trees evidently the case



stands very differently! I did not state that (4)
in the above tree. How soon the circumference
was about 6 feet some 8 or 10 feet from its
base, — that is, as near as I could reach it
measuring with a tender grape vine! —
The storm having cast down a great number of
the cones which would have opened this fall I
have made quite a collection of them, they being
of a various size & configuration, — some of which
shed you can see them, you will probably reject
as coming from P. Elliottii, — but I know better!
The cones of young & old trees of the same species of
pines show certain differences, but with P. Elliottii
the variations seem to be greater than with
all others. And so ens! — this is all I have
to say of P. Elliottii!

Pinus Australis! I conclude that we
will regard that matter as settled as to ^{whether} ~~that~~
the cones being "apical", or lateral! Since
writing you I have examined many others
& I make the same report, — the younger
& more vigorous the tree the greater the elon-
gation of the axis beyond the young cones —
amounting as you see to 3 inches or thereabouts!
In the very old trees there is of course
little or no growth, & therefore I have ^{sometimes} seen
in them a but very slight elongation, — almost
nil; — ^{generally} still, there is the evident effort & you
can ~~always~~ find — at least a few leaf bundles
beyond & above the young cones. I have no doubt
of these statements made from what I see here, but
I don't know how the same pine may
behave in other regions, — I only tell you what
I see! Pinus Australis then has lateral
cones (would you say?) and not "apical" as
has been incorrectly stated! As to the leaves



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GARDEN

Rec^d Sept 2, 1871

(5)

I believe I remarked that those of '69 had pretty much disappeared, - but I did find them on one tree last week. Now for that "Phila-
-delphia Nurseryman" & his statement about *P. Australis* taking "10 yrs to form a stem!" - I don't know that I exactly apprehend his meaning! - 10 yrs to form a stem of a few inches above the earth? - or a foot or two? - or how much? I don't know *P. A.* - acts in his regions Hyperborean, - but here I know that it takes not over 8 years to grow 10 feet & over in height, & 11 or 12 ^{inches} in circumference! & ~~for~~ this fact which I arrive at with accuracy, we are indebted to the Yankees! (Thank God! I can get this much of good out of them anyhow!) And how? Well, in July 1863 the Enemy becoming irritated at a pair or two of our men with the on Hilton Head & Pinckney Island (Pinckney Island, - not far from here, ~~just~~ ^{OWNED} } Gen. Charles Colson worth Pinckney of the Revolution, & after whom Michaux named his "*Pinckneya Pubens*" - not *Pinkneya* as I see you note it, - that's the Maryland family!) - retaliated, by sending up here a large force which burned three fourths of all the houses of our beautiful ~~the~~ village, - my own humble little *vignani* being of the number; none of these houses & lots have been re-built, & pines & oaks & brambles have taken the place of roses & violets! Before my own hearth stone a very respectable little live oak is growing, & all around pines, - both *Teda* & *Elliotii* & two or three of *Australis*, - the latter being about 6 feet high. In the front lot of a neighbor, where the soil is more favourable, & almost on the site of the dwelling - I observe many vigorous saplings of *P. Australis*, the highest of which are ten feet & over; - *Elliotii* & *A.* 15' or thereabouts. Now

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⑥ of course none of these trees were growing when we left the village in 1862; it is certain therefore, or most likely, that the seed was wafted into these yards (full of ashes & just in a condition for the germination of the seed) in the fall of 1863 — the burning having occurred in July of the same year. If these pines be still younger it makes their growth still more rapid. Have I then computed this "Philadelphia ~~larger~~ nurseryman"? Evidently the first 3 or 4 yrs as I before remarked are taken up in getting a good root & solid stem; — after that I think they grow with rapidity. I desire always to be accurate in my statements & therefore I return to what I told you formerly as to the young trees of P. A. — running up 4 & 6 feet without a limb. The former (4 ft) I have frequently seen, & the latter also in the Pine-lands even 10 ft. with only a tuft of leaves on the top, but I have convinced myself that usually ~~two~~ two very weak limbs are thrust out on each side about 18 inches or two feet from the earth, but they generally disappear either thro' the vigor of the other portions of the tree, or, (in the woods) they are burnt off by the yearly barbarous fires of our pine-lands, — and thus they seem limbless. Nevertheless I have seen them four or five feet without limbs, & clothed with leaves from top to bottom. You remark that they must look "splendid", — indeed they do, — especially after a cooling shower — or of a breezy winter's morning! Are not the cones of young pines larger than of the old? It seems to me so — especially of P. Australis & probably of P. Elliottii & indeed of all the rest.

I may mention that one of the saplings of P. Aus. in the burnt lot has grown 26 inches this year, — its height about 6 feet.



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botanicus 

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botanicus 

Rec^d Sept 2 1871 (9)

J. H. M. S. M. S. M. S. M. S.

with the foul smelling Squash bug ("Cercus tristis"?) altho I never found them within the bells of the flowers. These last however always enclosed a good many milk-white moths, ("miller") wh. had probably taken refuge there during the night or the early morning. Is this "agency" erro' ? Now, once more as to the Yuccas ! I am still as firmly convinced as ever that there are 3 distinct "varieties" of Y. filamentosa (?) growing in this neighbourhood ! As regards Y. f. No 1 there can be no doubt, — Nos 2 & 3 do indeed approach each other more closely, nevertheless are they ^{too} distinct "varieties" ! I have examined a great many of these even 10 miles apart & large patches of No 2 (the very long & flat-leaved one, (Seabrook's)) on Hilton Head, — (where I was several times called when they were in bloom) & still did they invariably present the same distinctions, except in one instance as regards the roughness or smoothness of a leaf only ! Yucca f. No 1. All the ^{dry} capsule bearing quinas are found in most instances in patches or clusters of 20 or 30, ~~or~~ & of various sizes, & this is the case with No 1, of wh. there are 3 distinct patches about here in 3 different fields, — one mile & 3 miles apart. If you will pardon a seemingly excessive particularity I will distinguish these separate fields, as the "Hunting Is^l", — "Nanny Creek", & "Buck-Is^l" fields. In the "Hunting Is^l field" there were 2 ~~single~~ scapes in full flower, — one of them ^{very} robust & vigorous, & both of them exhibiting the same peculiarity of the large pyramidal panicle — the limbs of ~~wh~~ were low down on the scape,



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as long ago drawn & described. In the "Narrow (10)
Creek field" (singular & funny name!) there
was a still larger patch (a mile off) contain-
ing large plants with ~~stems~~ trunks or seeming
trunks of 4 & 5 inches, - These had most of
them borne flowers last year, & in the winter
I examined the tall fl. stalks with rather pa-
-perly & whitish capsules somewhat compressed
in the center, - anticipating not a little satis-
-faction in examining in the coming summer
certain of them, which I expected to bloom. This was
the patch where Mr. Caesar Green amused himself
by cutting down for his patch of cotton, greatly
to my chagrin & disappointment! They have since
sprung up Phoenix like from Caesar's beds,
over-shadowing his better cotton plants, & exhibiting
in all respects of shape of leaf & as all of
the peculiarities of No. 1 as in the "Hunting
Isld. field"! At "Buck Isld. field" there is
another & the last patch, - 3 miles off, -
containing very many plants precisely similar,
with but 2 scapes or fl. stalks, one of which
was very early in the season eaten I believe by
a mole, - the other blooming into full
flowers & presenting precisely the same charac-
-teristics as the 2 in "Hunting Isld." These
are all of No. 1 which I have seen, - They have as
trunk when old, or what I take to be such, tho'
it never seems to lift from the earth, & I
am inclined to think that they tend to approach
the "tree 4. filamentosa" with coarse & abruptly
pointed leaves. Could I have examined these I
saw on 9th 9th, - in flower, I might have
satisfied myself. The color of the scape is as I
have repeatedly remarked pale green & of a yellowish
cast & very smooth. The wood as you will see
is more dense & compact - the fibres closer to-
-gether than in No. 2 or No. 3. Blooms earlier than
all the rest (15 may was my date, was it not?) bore no
fruit this year, so that I have no capsules to send.



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(11)

After fruiting, these plants all die, leaving the tall dry scape standing in the centre of the decaying leaves, — They then propagate themselves by thrusting out as you say under the surface of the earth a bud, sometimes quite deep — (Even 5 or 6 inches) wh^{ch} pushing up soon goes to making leaves, & when strong enough in 1, 2 or 3 years or more, (as the case may be) bursts out into scape & flowers & then ^{again} dies, — The same process being repeated several times judging by the appearance of the old roots wh^{ch} I've dug up. It is not unlikely that in one of these patches the plants are more or less offshoots from the main plant wh^{ch} originally sprung from a seed, but the cluster goes on enlarging by the growth also of younger plants still, wh^{ch} have sprung from the yearly falling seed. These patches are generally found in old sandy cotton fields, — The roots seemingly go down pretty deep, & altho' the plough may turn up & cut many & the hoe crop them down yet it seems no easy matter to destroy them, as one end of a root will always be left to push out

L. II



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At any rate, I feel pretty well assured that the "Stiles Point" (Gai 3^d) *Yucca filamentosa* Vera (?)

Does not behave in that way, but by prolongations of the root with buds precisely as in 1, 2, & 3. yet I have not examined them, but shall be vastly astonished if I find a leaf bud among the uppermost leaves! I told you that I found a little patch of "Y. f. Vera" at "Trimbles Stone Plantn", wh. the negroes had dug up for soap, young plants however were left, & if fortune & chance favour me I shall see whether they say buds above, or buds below! Query! Do not all the *Yuccas* those with stems & pulpy fruit like *Braemus aefloriosa*, as well as the dry capular ones make new plants from under ground? Certainly it seems to be so with *Y. gloriosa*; you find a heavy main trunk & 3 or 4 younger sprouts pushing up near, Evidently as in 1, 2 & 3 wh. I examined. Probably the same with *Braemus*, but can't say. These — forms are generally branched, may not this bud of *Y. f.* in the axil of the leaf be simply an effort of that kind in a vigorous *Y. f. Vera*?



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Rec^d Sept 2 1871

(13) * also very smooth!

Yucca-fil. (?) no 2. Of this I have
examined a great many plants in Hoon,
it is more common than either no 1 or no 2
- Examined it on Hiller H^d, - on Hunting Isl^d
& Buck Isl^d, - 10 miles a-part. Characteristics.
The very long & perfectly flat ^{but} "green leaf" with
strong spine. not much of a trunk, if any, - scape
usually very tall (I have one 10 ft) & invariably
purple. Leaves few - generally 50, - younger only
25 or 30. [Leaves of no 1, generally (I mean always
the most & flowering plants) 100 leaves, - the
same generally of no 3. On this however I
not disposed to lay stress as I see some inequalities
& variations from age of the plants as I presume]
but ~~it~~ almost always you will find only 50 leaves
on no 2. This is the same as the Seabrook
plant from NEW RIVER, - no difference!

Yucca-fil. no 3! ^{about 100 leaves (see above)} The rough & shorter leaf,
the scamed & wrinkled scape, - especially in the
panicle, with occasional prickles (?), - the
coarse, but sparse pubescence of branches. Panicle
generally shorter & more compact than others.
Colour of fl stalks will hardly be anything, but
this also is rather bronzy green, & these peculiarities
of them all hold everywhere that I have seen them,
& I find no difficulty in "spotting" them
at once! But here is the proof of the
difference between no 2 & no 3! There is a
field at Hunting Isl^d wh^{ch} we will call "Sageretia
field," (as the *S. Michauxii* grows there) when during
the winter I espied 2 large patches of nos 2 & 3
growing only a few feet a-part, in, & among
broom-grass; - The dry scapes & capsules were still
standing in each patch, & both of them presenting
their distinctions in the ragged peeling of the skin of
no 3, & also its corrugations & seams. In the early
spring the field was fired, - The dried broom-grass
blaze & burnt the plants up, all of them, as the
charred scapes still attest! Now upon a visit there



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lately I find that both patches have rejuvenated in luxuriant green leaves, many of the old scapes still standing up, or tottering, — but how unmistakable the differences of leaf between the two! The entire patch of no 2 (some 20 or more plants) have already their long & smooth & gracefully recurring leaves, — only 25 in no 3 as yet, — while a few feet off in no 3 the leaves are not more than half the size, & of a different colour indeed, & full of threads curling in every direction. In no 2 I think they are waxes & spars. Now these are all both of no 2 & 3 old plants or roots, — evidently there is no difference in age, yet the difference of leaf both as to length, & shape, & colour, are at this period (August) unmistakable. On some plants here of no 3 I counted 250 leaves already, & in one plant I think 100! I called the attention of a friend who was walking with me to the difference in the two patches & he did not fail to recognize the distinctions at a glance. But after all, of what avail are all these slight (?) distinctions of length, & breadth, of roughness, or smoothness, or colour, — if, a true tangible character can not be caught? And yet I am certain of the variations.

Y. Draconis. Not having any of them very near me I was not able to watch them as soon after flowering as I could wish, but I am pretty certain that the fruit bends downward early from weight, — & I think the specimens I'll send you will prove it, — these are from an inch to 2 inches, & the youngest they are the less disposition to recurve as you will see. The anthers of all the species I have seen are sagittate when in the bud, & I see no variations whatever in the flowers of any one variety.



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MISSOURI BOTANICAL GARDEN

(15)
I have seen as yet no *Y. gloriosa* in bloom this summer, — The few about me will not bloom, so that you will have to wait still another year.

With me here *Y. brachius* blooms always in June — last of May too I imagine. *Y. filamentosus* (?) in May & June. *Y. gloriosa* — don't know, but have little doubt it blooms with *brachius*. I don't think Mr. Elliott was right, — yet this was "his country". I think Chapman right!

The first chance I get I shall make a day of it at a little island (the Queen of La Belle Riviere (May)) & possibly may get fruit or flowers of *Y. gloriosa* — at any rate I can examine that. Lagoon of intertisted stems of *brachius* that have fallen & are falling into the water, & may find something like *Q* oak bark juice, & later still, when the "melancholy days" have come, I hope to take a few days on Hillier's beach — a-fishing for Bogs in the surf, & if so, (who knows?) I may get strikes of *Y. recurvifolia*! By the way did you ever write to Hunter the N.C. man, & if so, what says he?

I send you a few specimens of the little oak from the sand ridge with *acorns*, —
2. *Arenaria*? *Myrtifolia*? — or what?
— 2 x 3 ft high — highest about 8 ft.



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I hardly know whether to ask you to send
the yucca seeds or not, as I have no proper
place for them, — we are getting nomadic
in this desolated country now, — however
I may try them in a box. Would you
like still later a bulb or two of *Par-*
-cratum Rotatum from N. River? — Does it
grow with you? During the summer I
made a collection of ^{a few} way-side plants,
wh^{ch} possibly you might care to have for
the Herbarium, & among them handsome
spec^s of "*Poincerea Pub.*" some 8 or 10,
If so I'll try & send one of these days.

Just after the gale I bethought me of
sending you fresh good specimens of
P. Elliptica "up to date", & fixed them
up for ~~mail~~ mail, — but packets &c
have prevented as yet, we being in a
measure cut off from the outside
world. I shall however send soon,
& at that time or a week later
capsules of No 2 & No 3, — of both
of wh^{ch} I have collected but few, — $\frac{2}{3}$ of
wh^{ch} $\frac{9}{10}$ of these plants do not
fruit. Trusting you will pardon
much rig-marole & irrelevant
stuff & chaff for the merest grains
of observation or attention wh^{ch} this letter
may contain

P.S. you will have as
many as 5 leaves on one
or two sheaths of the
Pine Sprouts; *P. Serrata*
I have seen, sprout from
stump — don't know of others.

I am

Very truly yours

J. H. M. (a man's name is his skin!)



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|| P.S. Bumelia Terrax (Sideroxylon chrysohyll-
michx?) from ^{wh} tree evidently came the berries
sent you long ago Bluffton SC
& about wh I desired informⁿ: 10 Sep '71

To -

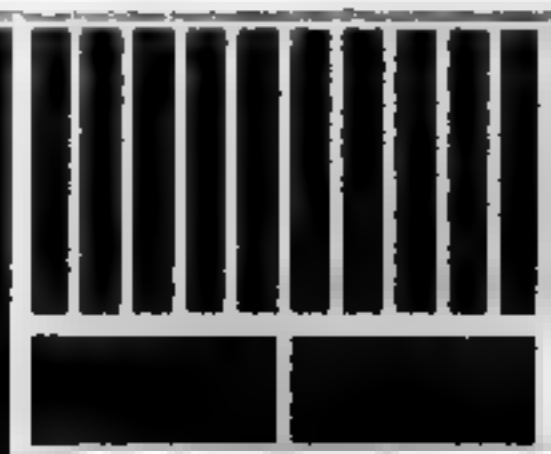
Dr Geo: Engelmann

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Recd Sept 19
- 25

My dear -

As I am anxious that
you should be accurately informed
as to the new Pine - "P. Elliptica",
I send you a package by
this mail containing a good
many specimens of the cones
lately swept down in the gale
of 18 Aug. Some were quite
green & others, almost brown;
you will find them varying
greatly both as to shape &
size - as you will see by
the small drawings wh^{ch} was
made in case the package fails
to reach you. These sent pre-
-sent the more prominent
Variations - but the gradations
to either extreme seem infinite
- perhaps 71, 4 & 5 & 7 are
the most common forms.



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MISSOURI
BOTANICAL
GARDEN

In hope of preserving the outlines of these cones I have varnished them, which may keep them the longer from bursting. I trust they will safely reach you as I wish you to examine them. You will find also a specⁿ each of *P. australis*, *P. Jada* & *P. Perstina* (maturing this fall), with which to compare the former - also the still younger cones of them all. Those unmarked all belong to *P. elliptica*. I hope I'm not running you down! -

My truly affecⁿ friend

P.S. J. H. Murchamp

You will find the packages enveloped in the Fort motto, Rangding, (Father's) Y. f. Vera - simply to help the cones on their way to mail, & also a few seeds of "varnish tree" - ~~to be used for the same purpose~~

for the same purpose. ~~some of these~~ Yes of 14 aug arrived about 10 days since, & 2 packages sent since, - this the 3^d - ~~(1844)~~



Dec 2 - Oct 10th

Aug 13

Bluffton 10

To -

2.00. 71

Dr. Geo. Engelmann

My dear Sir,

I was out a little surprised this morning while en route to a patent in the County - to see what I've long been looking for - a *Yucca glauca* in full bloom on the side of a cotton field hedge! I enclose leaf & flower as from the same. Stalk about 8 inches, - stout, - flower stalk 5 feet - raceme short, 4 to 6 flowers on each; - from the lower portion of the raceme the pedicels (2 or 3) seem to spring immediately from the stalk as is frequently seen in *Y. glauca* "anther" are indeed as Elliott says "sagittate" but only in the bud, as is the case with all the *Yucca* I've examined! Petals - "spangly ciliate" (Elliott)? I do not think so. Seeing this thing in bloom I bet thought me of examining the two on London & May River Bluff of wh. I wrote you last winter - one of these - (The one wh. I figured, whose fl. stalk has been pushed aside by the next yr's growth) had evidently borne fls. also, as a portion of the green stalk was left & a few half ~~the~~ without flowers were found

MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS



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MISSOURI BOTANICAL GARDEN

among the leaves. Entirely broken off by
 some "bloody virgin" with no trace of me
 or grief before his eye! October, is it?
 rather late for you, is it not? & yet
 here are 2 healthy & vigorous plants in
 bloom now. A lady whose youth was spent
 near Hilton H^o Beach tells me that she
 often saw them in bloom among the sand hills"
 "when Chickadees were nesting" - in the
 fall that is - now, and a gentleman who
 saw this plant & who formerly planted them
 told me the same. Both of these people
 are accurate in such things generally.

I would have supposed it was too late before
 fruit for them to mature. Their fruit - but
 perhaps this is imaginary - we will see.

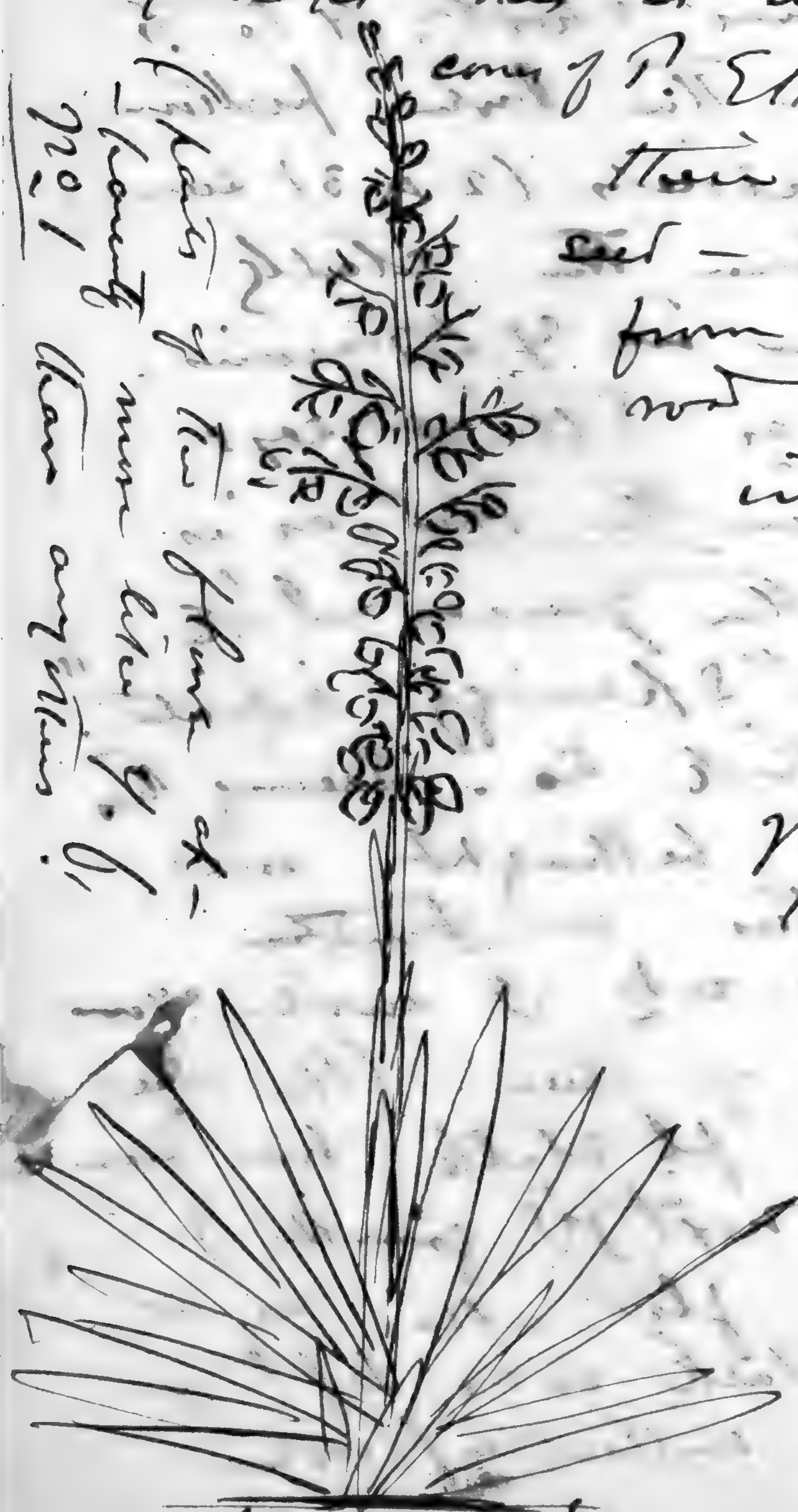
one of P. Elliott's glassy variety
 their "cerements" & setting
 set - another looking of seed
 from an opening above in
 root side; - somewhat
 in haste

Very truly & respectfully
 Yours
 C. A. Meyers

P. last of 10 Sep. recd.
 Thanks for same.

I conclude that you
 recd my last note
 as to the package of
 cures sent. I have
 not with one more
 peculiar form - all will
 complete the set.

C. A. Meyers



Y. Florida. 2. 02 71.

leaves of this plant at -
 - hardly more like Y. J.
 1201 than any others

By last of Sep 16. & 3.00 I shall answer (I mean
any queries therein) as soon as I have leisure,
Thanks for yr. courtesy! Bluffton 70

12.00.71

To -

W. J. Engelmann

Rec^d Oct 18th my W. J. E.

Ans Nov 2nd

P.S. I find that I
cannot make up the
package to day - will
send next week, either on
17th or 20th!

As the weather is getting

cooler it may be best to send on at once

the bud of the cutstock of the yuccas

about mid, - wh^{ch} I send by this mail.

I very much doubt whether they will survive

the absence of moisture, & rough handling

in the mail bags, - especially, a mile back

and of some 17 miles from here to the R.R.,

- nevertheless, I make the venture as I

am anxious that you should cultivate them,

& see for yourself how distinct these "Varieties"

are! Probably I shall send young plants

also, & even in these you will see how their

distinctive features are preserved, - but could

you examine them when full grown (as I have

done repeatedly) it is not unlikely that in

the end you might see ^{them} with your own eyes!

No 1. has invariably a great many leaves -

more abruptly pointed than the others, & the pan-

-icle commencing low down on the scape,

- wh^{ch} also is of a pale green colour, with yel-

Please return the letter when you may happen
to write again!



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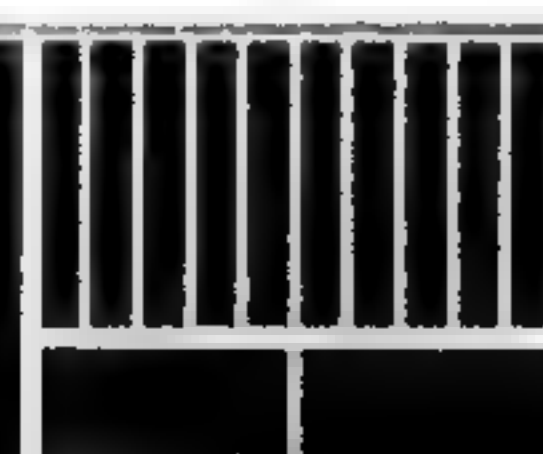


MISSOURI
BOTANICAL
GARDEN

- look like the "*Glottidium floridanum*".

No 2 on the other hand is few leaved, - leaves very long, - much narrowed at the base, smooth, flat, - armed with a sharp spine, of a dark green colour! Flower stalk invariably deep purple. No 3 resembles the latter somewhat, but the leaves are more numerous, much shorter, generally rough on the upper face. Panicle (fl^r stalk & racemes) with a sparse pubescence, - ferruginous, wrinkled, with occasional prickles or elevations.

I believe that I referred formerly to the fact - that two patches of Nos 2 & 3 of from 30 to 40 plants each - grew immediately alongside of each other in an old "Broom-grass-field" which I visited last winter, at the same time examining the many dead flower stalks in each patch, - this fact proving that both patches contained old & mature plants. Later still in the winter or in the early spring, a fire swept thro' the field - consuming everything, with leaves & flower stalks, - now upon visiting this spot at this time I find that both patches of plants have entirely renewed their leaves, - presenting so marked



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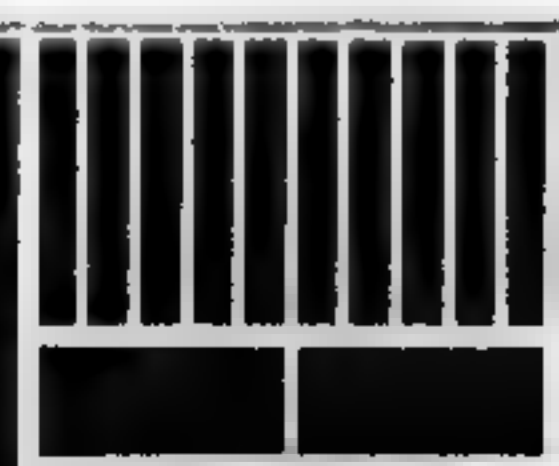
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GARDEN

a contrast as to state the most unpractised
observed, — the leaves of No. 2 being very
spaced in number & almost twice the length
of No. 3! These two colonies are side by side,
& a chisel could draw a perfect line of
demarcation between them — guided alone by
the length & colour of the leaves of each!

But I've gone over all this before, &
doubtless I weary you with my "vain repe-
-titions"; — I only remark that if
these be not "glaucifera filamentosa Vries",
— then what are they? *Y. puberula* — "*Y.*
Stanssensii" of Hammett? — or what?
I have only Elliott & Chapman, & know
nothing of what I suppose might be called
Historical Botany, — having no authorities
to consult! I wonder if Dr. Chapman
has seen such as these I have called
your attention to! — most likely he has!
About today, since I sent a note
to you in a letter, at the same time
enclosing fls of the "*Y. gloriosa*" only
now in bloom. I shall watch the
fruit for you & with some curiosity too,
as I do not remember to have
seen it, — possibly it may turn



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MISSOURI
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Many thanks for the printed sheets wh. I've read with much int.

into a Dry capsule after all! But I fear it may not fruit! I enclose my Father's letter wh. possibly may possess some interest for you, as it is not unlikely that I shall get from him specimens of the Pine wh. maybe of use to you or may interest ^{you} in some way. I don't know how he may like my sending it, but as I say, it may pre-
-paw you for anything wh. I shall get from that region of the middle country on the Santee River, - not far I imagine from Walter's old botanic ground. Possibly I may go up there myself this Christmas - God willing! My father of course no more purposes to be a Botanist than myself, but he is a sincere lover of Nature, & tho' now in his seventy second year he still keeps a bright look out for anything new, or strange, in that wide domain, - and it is as very unusual thing even now to see him with some new plant - "studying it up" - in "the forest" - according to - Elliott, in whom by the bye he is a believer; as being first a Calvinian, & next a "low-countryman"!! But I will forget that you are a zealous worker, & "eminent for facts," - with doubtless very many correspondents, & therefore with no time for the filial revelations of your father & AM



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BOTANICAL
GARDEN

Rec^d Oct 18 1871

1. S. I enclose seeds of *Yucca* nos
2 & 3. These were all that I could
obtain, - Every capsule wh^{ch} I ex-
-amined having been bored; - also
still more seeds of "*Pinus Elliptica*".
I doubt if the cones from wh^{ch} they
came were perfectly mature, but
I see that they are already germin-
-ating & it is best to gather them
now, as no other pines are yet
wasting their mast. You can get
M. DeCaisne to show them on
that portion of the sea-coast of
France - wh^{ch} - I've seen it somewhere
stated had been reclaimed from the
drifting sands by some patriotic
Frenchman, who sowed the whole
ground with "*P. maritime*", - !! Is
that the story & is there such a
Pine? - I but lately stumbled
over an old no. of the "Oakland
monthly" (Cal) & therein read a very
pleasant acct. of the life & wander-
-ings of the Botanist Douglas after
whom the *Abies Douglasii* was
named. I had known nothing
of him previously.



MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS



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MISSOURI
BOTANICAL
GARDEN

Rec'd Nov 30

Bluffton SC

H. Engelmann

25 Oct 71

It last of 1300 was read in due time, — it was very pleasant — read — ing to me, & I am obliged to you the more as I can give you so little in return! — And now once again

to the condition of yucca question. As Mr. Tupper with Carlyle well say! On the 16th of October I was called to a sick negro some distance from here by

water, & as my route was sea-ward — I thought it not unlikely that I would be gratified by the sight of another & still later blooming Y. Florida, — nor was I disappointed! The day was delicious, — the

trial of the earth & sky, as old George Herbert hath it, & the tide brimming high so that we skinned over the tops of the highest marsh: We pass Crane isle, Beef Isle, Corn Isle, & Potatoe Isle (so

suggestive of plenty!) — next, the beautifully wooded shore of Montpelier, — the Octagon Island its ghostly chimneys telling the tale of war & Hate & reminding one of the fate of Chicago & Columbia, & as I approach old Peterou with its ragged rim of shore

shrubbed here & there with live oaks & Palmettos — I see something very like a crane in the distance — which I come proved to be a long snipe for all that! I was soon mounted on Sambo's back, who was in this marsh a sedge — and landed me among yuccas & clambering Opuntias (mexii)

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

Vertical text on the right margin, possibly bleed-through or a separate note.



Do not suppose that all of the *Dracopis* stems were so hairy as this one. It appeared to be the case only a few of the stems, which had very long hairs, were so hairy as this one. It appeared to be the case only a few of the stems, which had very long hairs, were so hairy as this one.

I found growing here, some 6 or 8 of these plants (48), but only the in bloom, though upon the others I were sure to be seen the dead fly stalks of last year. They were all of them of pretty much the same appearance as the one which bloomed on 20th, only the leaves more rigid & plaited. The enclosed figure is correct one & taken from the *Petigou* plant, — you will see it is the same thing! The flaccidity &c of the 20th plant is easily accounted for, as the hedge & fence immediately around & about it were burned in the spring, & evidently the plant destroyed at that time; so that that it is still tender & flaccid; as for the leaves they were plaited; the net is so marked a degree as usual — for the above reasons, & besides, the leaf sent was heavily pressed not obliterated the plaiting! As it was not likely that I was half the shot again I thought it best to annex it at once, which I did, & on coming home placed the whole sealed in a goblet of water & was therefore enabled to verify my observations as to the ~~complete~~ opening of the fly in the evening! which was not I think complete until about 9 or 9 o'clock! I had no idea that it was any thing like this! — Next morning all of them which had bloomed the preceding night seemed to have partially withered & withered, — the anthers & filaments especially; these last had become partially recurved in the morning when in bud, (as you remarked in a previous letter), but they were also perfect at night — they had not in the slightest degree withered! Why could they not have discharged their pollen then — I mean in the evening — is it necessary that there should be such an elongation





of the stigma, &c before ready for the first
 - blowing pollen. Probably from rough handling -
 I did see a little lump of the yellow pollen
 grains on the inner portion of one of the petals.
 I observed that these fls did not seem to
 hang immediately up & down but were tilted
 a little, or inclined, so that a line drawn
 from an another side strikes the stigma, as thus -

But even tho' the pollen shed
 fall, or be projected in any way, why
 shed there not be insect agency & on
 the very night the fls be open for as I
 have remarked the anthers & filaments
 seem perfect & first in condition to perform
 their functions - and they are not wither until
 next morning. These "milk" snow-white

I have found in almost every fl. & among
 (when closed) & doubtless enter these "milk"
 "palaces" at night & would be quite sufficient
 for the purpose. But doubtless I am wrong
 and ignorant at every step. At day or evening
 also happening to pass other 2.00 yd with
 cotton fields & I could see many fls stalks,
 not a flower had been fertilized, or not
 a sign of any sign of polygamy or fruit
 capsule to be seen, or any thing to be
 noted. So there is nothing more to be
 seen! The half cultivated garden fls have
 not bloomed, - an was blown down by
 storm of 18. Aug. The flower stalks with
 complete (apparently) pyramidal panicle
 of the style? (The base of wh I sent
 you) certainly seemed different from both
 of these wh I've just seen, but I suspect
 the difference may be due to the position
 case of a more prostrate plant & the
 having been entirely anthers!

I enclose fls of Y. J. (2. October), & also of last (17, & 18, & 19. Oct) for you to compare, I especially call your attention to the double one! First I've seen on any Yucca. Meeting yesterday a negro who came from Hilton Hd. to consult me, I asked him about a certain plant over there - when I remembered there was a kind of Hedge of *Dracopis* & I think two of *gloriosa*, but wh. I had never visited since our disastrous battle then of Port Royal with old DuPont's fleet! I showed him the without fls stalk from "Peterw", & asked him if any such were in bloom at "Half moon" - as I believe the old name of the place was. Yes! he said, for he had just been looking at them the day before! - He promised to send one to day, but Cubber's promises are like "Pie-crust" - nevertheless the fellow is quite intelligent & a cabinet-maker. I do not at all doubt here, so some time this winter I hope to get over there & if they be found to be found - yours shall I have it!! I also visited the red in May - when I remarked to you so many inter-tangled ~~the~~ stems of *Dracopis* are to be found, & masses of them ^{they} ~~themselves~~ often as little ~~more~~ ^{bluff} ~~by the quality of the wood~~, then resting on a little ~~beak~~ ^{wh. is} ~~is~~ ^{erupted} about twice a year I think in May & Dec. I enclose specimen of trunk with a kind of bark much resembling Dog wood (C. Fl.) & easily separable from the fibres &c. I thought this was said to be impossible in the Endogens, - nor did it seem to me difficult to see something very like "concentric rings" country wh. I make out my Endogen between 40 & 50 yrs!!! But that's not "elder leaf paper" is it? I shd like to get my trunk to you, - is this like of Antigua (?) specimen? I sent you last a letter enclosing a note to one from my Father, & also last week a package of Yucca fls buds &c. P. Elliott's springing up abundantly on road side. I have more to say, but must go & help my gun-shot wound case - the result of feuds between white & blacks, fomented by the misguidance of our "Smoky Caesar" A. Horse Jockey, who sits in the chair of Washington & Jefferson!!



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MISSOURI
BOTANICAL
GARDEN

Rec'd Nov 15th

Bluffton 70 5

H. Engelmann

8.11.1871

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

My dear Sir,

Perhaps it is as well to send
 on at once whatever I may have, & I therefore
 enclose seeds of *Pinus Elliottii* collected from
 a good many trees - young as well as old,
 also a few of *P. glabra* & *Serrata*. I was
 anxious that you should have seeds of the former, as
 it is a tree but little known in my opinion with
 of cultivation, I therefore took a long sketch
 a day or two since & obtained about a handful
 of cones - only awaiting a frost to burst them
 open! When these shall have discharged their seed
 I shall send you. I think it not unlikely that this
 tree is found about the Santee near Fort Mifflin
 as St. Johns - Berkeley - where Mr. Ravenel re-discovered
 it is not so very far off - 30 or 40 miles may
 be. Altho' I find it sometimes growing on
 a salt water bluff & at the head of the little
 cove, making into the river, - yet it loves rich
 & mellow soil on the borders of swamps & I am
 told often found in the swamps on little rich
 knolls. Some of the finest I have seen were in
 a swamp on the Edisto where the R. R. crosses
 that river, & also about Coosawhatchie, & Julifinnee,
 on the same route, - but of course all of these
 places are not far from the sea. The young
 cones of this species are now recurring - as also
 of *P. Serrata* - & *P. Jada* not yet. You will remember
 that this condition appears very early in *P. Elliottii*.
 I have watched *P. Serrata* now for 2 or 3 yrs &
 the barbarian burning of the woods has generally
 prevented my coming accurately to any conclusion
 as to the opening of the cones. I am certain however
 of this - that I have never yet seen a cone
 open - artificially at 18 months like the
 other pines! Trees that are well scorched & the
 fire being up half way & even to the top will
 expand their cones - but otherwise they remain
 for a very long time - for several years it

The birds in the back of my mind from 16 - 19 are all "Petitric" & I did not send half a dozen for a



I hope to get for you after a while "mit of y. glaucosa!"

seems to me. A few I observed opening last July 5th
 (say about 27th month) - but very few, & on trees
 wh I do not think were burned, - and last month
 (the 30th month) I saw many others opening
 freely. But even now the most it seems to me
 are closed, & I think may remain so for years. I
 do not feel perfectly certain however, as to the accuracy
 of my conclusions. Well! Mr. Rastrel sent me a good
 specimen of his *P. Serotina* & I may astonish you as being
 so low an observer, but I must tell the truth that I
 could see little or no difference either in the cone or
 leaf save that in one or two instances there were 4 leaves
 in a sheath! I believe his *P. S.* & my *P. S.* to be identical.
 The same with his *P. Mites*. I intend still "to fight it
 out" on the Yucca "line" "if it takes all the summer" (~~to~~
~~the words of all the Yucca~~) so I have cut
 3 spec^s ~~of~~ nos 1, 2 & 3 & when sufficiently dried shall
 send you. If I had seen but a colony each of
 these 3 varieties I might have said that they
 sprang from the subterranean stems of but one plant
 of each kind, but finding them in fields miles
 apart - 3 - 10 & even 20 miles & presenting
 the same characteristics, I cannot but think that
 there is something in this difference of length, colour,
 shape & sparseness of leaf or is always the case in
 no 2: no 2 is the most abundant & loves rich
 & mellow ground on the side of a dam or edge of a field:
 a few days since passing a rich swamp of Magnolia &
 Tupelo growth as I observed at some distance what I took
 to be the fronds of the Blue Palmetto (*C. Hystrix*) a few
 plants of wh are to be found there - as these were near
 I went in to the edge of the swamp & to my surprise found
 a large colony of the long leaved no 2 growing on a little
 mound wh seems to have been raised either by oak-turkey
 trees - or perhaps long since by Indians. I procured several
 roots & young plants & also one large plant now growing in
 my garden. All of these have but few leaves (no matter
 how old or stout) never over 50 - 55 I believe whereas
 no 1 (only 3 specimens known of this!) & no 2 have
 a vast no. of cast of 2 no. came to hand last night!
 It was a treat to me. I thank you very much
 for the last time ^{however} please let me repeat that the
 thought of taking up a valuable time of yours for
 men's courtesy's sake is not pleasant to me, for I
 have (as I said before) but little to give you - so that
 I will have you write only when in all respects con-
 -venient. In my last enclosing "bank" (?) of *Y. Bracopsis*
 or *Y. fl.* of 16-1900 again I assumed *Y. serotina* as to
 placing *Y. fl.* leaves. I find all planted but some plants
 more so than others - I however have seen 2 plants - always
 in clusters (leaves of wh I long ago sent) wh if they presented
 differences in the flower as wh did not surprise me.



P.S. - The package
was not directed
as letter T. 3003

Lang Syn

Rec^d Dec 22
Ans same day

Fort Mott. 10

13 Dec '71

D. Engelmann

D. E. H. Mellochamps

MISSOURI BOTANICAL GARDEN
GEORGE ENGELMANN PAPERS

my N^o 12

You see I've changed my
face from the region of salt water
to the red clay country of the Congaree,
I repeat that I have so little to
say which can interest you, - never =
= the less I shall jot down a
few notes as to what I see!
As to pines I find but three
here, P. mitis abounding in these
red clay lands, - P. australis in
the poor sandy & gravelly hills, &
here & there P. taeda as you get
to the river swamps. No P. glabra,
- no P. serotina, - then I left
behind me between here & Charleston
100 miles away. As before stated
P. glabra is common sw' on the
Cher' & Sash R.R. - which runs along
the coast, (the most beautiful
trees being found in a swamp on
the Edisto) but I lost sight of
it on this route - (So. Ca R.R.) after
passing a little cypress swamp



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MISSOURI
BOTANICAL
GARDEN

some 30 miles from Chetm. In this spot there were a few trees on little scrolls in among the Cypruses. It is really a swamp tree, tho' in the low country I have found it on bluffs almost fronting the ocean, — as for instance on "Calebogue Sound." — Hitter's Head. I asked my father to take me to his *P. glabra* but they were only very old & fine specimens of *Mitis*! A glance was sufficient to satisfy me, — nor did I find any difficulty in convincing him. As for *P. Serotina* as I tell you I have seen not one here, yet it is not unlikely that it may be found in ponds & low "galls" if there be any such here. No *P. Rigida* (E.H.), — no *P. Inks*, — only the above 3! There was a terrible "freeze" just before my arrival here wh^{ch} brought down many a branch of Pine, so that a good opportunity was afforded me of examining them. I find this same condition to hold as to the ^{non} "apical" position of the young cones of *Abies-tratis* wh^{ch} I observed in the low country, — always an elongation with leaves! — As to Yuccas, the lawn & gardens of this beautiful place so indicative of the wealth & comfort.



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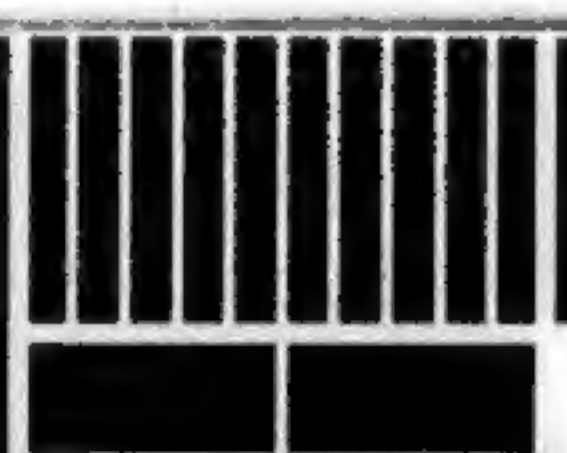
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For motto on the Congress Dec. (1871), The lawns & gardens
of the olden time) are covered with
them, — or rather I should say with
many gloriosas (brought I imagine long
ago from the Sea-beach) & a few of
Dracenis. The former are generally
(trunks) 4 or 5 ft high, — flower stalks
the same, but expanding rather more
than those used plants about me; other-
-wise I see little or no difference, but
the leaves exactly resemble as to colour &
those formerly sent you from an old
garden on May River — except that they
are not so large & robust. Some 8 or 10
blooms, (in any my father thinks!)
but not a trace of fruit, tho' I
examined very carefully! Strange! and
we never to see this so called pulpy
fruit? No fruit on Dracenis either.
I demanded of my father where his
M. filamentosa (Vera) grew, — not here he
said — in these wet-red clay lands, but
some miles off among "those Dutch
fellows" — in the poorer hills, — descend-
-ants of the old anti-revolution colo-
-nists (Germans) who ^{are} fixed & rooted
here like their own Hills & pines, —
a still showing, all the thrift & Home-
-virtues of the race! So yesterday — being
a most delicious & balmy day — we
started off on a grand exploration in
the country of the German folk!
For some miles not a specimen to be
found, but as soon as the clay began



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MISSOURI
BOTANICAL
GARDEN

P. mitis in packets also. - Shall return tomorrow in a few days

more yellow & softer & gravelly - we left
P. mitis behind, & striking a country
of P. Australis & "Black Gales" & "Scrub
oaks" we soon found them abun-
dantly under the shadow of these various
oaks. These plants so far as seen were
robust, but stemless, or rather having a
very short stem, & growing in separate
compact clusters, - that is, the new & young
plants sprang from shoots or runners or
subterranean buds only a few inches from
the main trunk. I looked in vain for
a bud among the green leaves, but I did
observe one at the base of these just
above the surface of the earth. Some 10 or
12 specimens examined in all, leaves 57.
47. 44, - that was about the average.

Root much noded or tubercled, - possibly
these are the young buds. Unfortunately none
of these had borne fls this yr. So no
capsule to be found. Found one old fls
stalk, of last yr. partly charred by fire,
- quite stout, must have been 6 feet
I imagine. Certainly a very diff. plant
from No^s 1, 2 & 3 - especially my
glabrous, flat & long leaved No 2 with
the purple stalk. I send by mail a pack-
age containing the leaves ^{with} broad & long of Y. f. (Vera)
with underground stems of same, also dried fls
of Y. florosa & leaf ^{of same} from this plant, & lastly
a few creeping wts of the exquisite beautiful
Iris Cristata. (or what I later to be these) of
the pine-lands round about. Very a curious
thing on the net & deep gorges - from seed evidently from
the trees on the lawn - one I observed
in the gully at least 18 in in diam!

MISSOURI BOTANICAL GARDEN GEORGE ENGELMANN PAPERS

