

BOTANISCHES MUSEUM
der k. k. Universität.

J. N^o 17425

B

@ 111/39

.ORA OF THE

SEQUOIA GIGANTEA REGION.

ADDITIONS TO THE LIST OF SPECIMENS
COLLECTED IN

AMADOR, CALAVERAS & ALPINE COUNTIES,

CALIFORNIA.

At altitudes from 200 up to 9000 feet.

-BY-

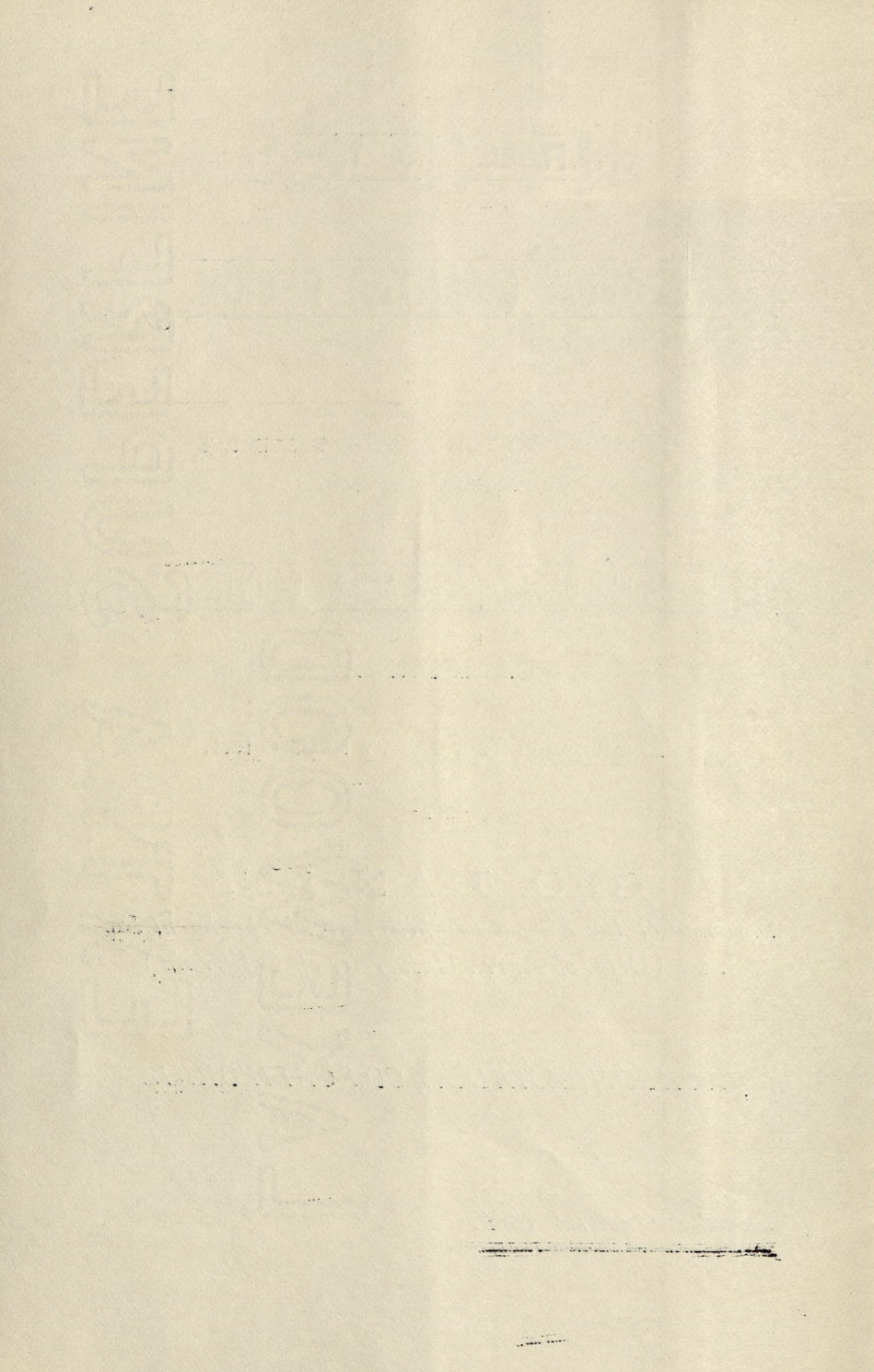
GEO. HANSEN,

*Foreman of the Sierra Foothill Agrc. Experiment Station,
(Dept. of Agrc., University of California.)*

JACKSON, AMADOR CO., CALIFORNIA.

Issued August 1st, 1896.





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* * *

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Mr. Alex. Wright, London (South Norwood Hill): "I have enjoyed the reading of it. Your classification may be a little too far in advance for some; but I think you are on the right road, and it must be adopted sooner or later. No one can, on reading your book, but admire the perseverance and interest you have taken in your work."

Reginald Young, Esq., Liverpool: "I may at once congratulate you on having accomplished a very arduous task."

While offering in the appended list additions to my *exsiccatæ* of the "Flora of the Sequoia gigantea Region," I avail myself of the opportunity to publicly thank those institutions and private parties who were kind enough to support me through their subscriptions. I guarantee them the most liberal treatment, rendered more valuable through experience gained in the past, and entreat old subscribers to recommend me to an extent which they may deem me worthy of. Regarding the reception accorded my specimens, I repeat but the words of Prof. A. Batalin, director of the Imp. Botanic Garden, St. Petersburg, who writes under date of March 5th, 1896: "I express my satisfaction with the excellent manner of preparation and state of preservation of your herbar collection." If here and there some specimens should not give entire satisfaction, I beg to favor *me*, in informing me of any objections entertained. Lack of experience may have led me to distribution of somewhat incomplete specimens. But renewed collecting, and profit from work in the field enable me to correct amply such omissions. The satisfaction which this, my chosen occupation, brings to me, is the profit I seek, and I feel grateful to those who help me through their orders to continue my work and to extend to others the pleasure I derive.

I have not continued to list elevation where specimens were collected, nor do I further number in my list the species brought together. Such is done though throughout the sets of specimens and I promise that upon further support from other institutions, I will issue a complete catalogue giving all species botanized, where collected, under what conditions found, adding all those numbers under which I distributed same and stating why they are thus separated. My knowledge about our flora is extending, and as long as I know of so many unexplored localities in my field of Amador, Calaveras and Alpine Counties, I defer such, my final report.

I note that all numbers collected are gathered at the

time in such quantity as to insure uniformity throughout my sets. Respecting oaks, etc., I state that one number gives branches of the identical tree only, plenty of material having been prepared to supply all likely subscribers.

While any purchaser is perfectly welcome to select any number of desiderata, at the *price of \$7.00 per century*, I beg of those intending to purchase full sets, to permit me the selecting of all those forms which I found growing in my neighborhood. While thus increasing the numbers of specimens, I, in return, warrant a most liberal treatment.

I can but renew my thanks due Prof. Edw. Lee Greene, of Washington, D. C., for the determination of the higher plants collected, and add the names of Mr. J. Burt Davy, and Mr. F. T. Bioletti, both of Berkeley, as those who kindly undertook the determination of most of the grasses. Of more difficult numbers specimens were forwarded to Prof. Scribner, Vasey, Britton and Coville. Prof. J. B. Ellis, of Newfield, determined all of my frugi.

My novitates and species but recently described as collected by others are printed **in bold type**.

Alle Pflanzen, welche zur Verteilung kommen, sind nummeriert. Falls eine und dieselbe Species in verschiedenen Höhenlagen gesammelt ist, so unterscheidet sie eine neue Nummer. Zugehörige, gedruckte Zettel geben alle erforderlichen Notizen.

Tout les plantes sont numerees. Quand une espece est collectee aux hauteurs differants, un numero different est donne. Des etiquettes imprimees avec tous les numeros.

Psoralea Douglasii Greene
Lotus Nevadensis Greene
 " *crassifolius* (Benth.) Greene
Trifolium Watsonii Loja
 " *multicaule* Jones
 " *aciculare* Nutt.
Medica denticulata (Willd.)
Melilotus alba Lam.
 " *Indica* All'ioni
Lupinus Grayi Wats.
 " *bicolor* Lindl.
 " *Menziesii* Agardh.
 " *silvaticus* Drew
Cercocarpus betulæfolius Nutt.
Potentilla Nuttallii Lehm.
Rosa Californica Ch. & Schl.
Epilobium adenocaulon Hausskn.
Boisduvalia *densiflora* Wats. var.
 imbricata Greene
Godetia rubicunda Lindl.
 " *viminea* Spach.
Clarkia *rhomboidea* Dougl.
 " *virgata* Greene.
Floerkea versicolor Greene
Enphorbia nutans Lag.
Ceanothus diversifolius Kell.
Malva parviflora L.
Cerastium viscosum L.
Stellaria crispa Cham.
 " *Jamesii* Torr.
Alsine media Camar.
Arenaria pusilla Wats.
Spergula arvensis L.
Tissa Clevelandii Greene
Portulaca oleracea L.
Micranthella fabacea Greene
Viola purpurea Kell.
 " *Douglasii* Steud.
 " *glabella* Nutt.
 " *lobata* Benth.
Thysanocarpus elegans F. & M.
 " *pulchellus* F. & M.
Nasturtium officinale R. Br.
Eschscholtzia compacta (Lindl.) Walp.
 " *Douglasii* (H. & A.) Walp.
 " *pulchella* Greene
Dendromecon rigidum Benth.
Berberis Fremontii

***Delphinium gracilentum* Greene**

Pæonia Brownii Dougl.

***Ranunculus alceus* Greene**

" *Hartwegii* Greene

" *occidentalis* Nutt near *Eiseni*

Sedum spec.

Tillæa minima Meier

Boykinia major

Cornus sessilis Torr.

Apiastrum angustifolium Nutt.

Pencedanum utriculatum Nutt.

Carum Kelloggii Gray

Sanicula Nevadaensis Wats.

" *bipinnata* H. & A.

Pyrola aphylla Sm.

Arctostaphylos myrtifolia Parry

" *patula* Greene

***Dodecatheon* *Hendersonii* var.**

" ***Hanseni*** Greene

" ***lætiflorum*** Greene

Pedicularis densiflora Benth.

Orthocarpus pusillus Benth.

Mimulus inconspicuus Gray

" *laciniatus* Gray

" *nasutus* Greene

" ***marmoratus*** Greene

" ***subreniformis*** Greene

Pentstemon Rœlzii Regl

Collinsia tinctoria Benth. albino

Solanum cupuliferum Greene

" *elæagnifolium* Cavanilles

Eriodictyon Californicum (H. & A.) Greene
fl. alb.

Phacelia imbricata Greene

" *distans* Benth.

" *humilis*

" *namatoides* Gray

" ***spec. nova***

Gilia gilioides Greene

" ***staminea*** Greene

Nemophila heterophylla F. & M.

" *pedunculata* Benth.

Linanthus pusillus Greene

" *bicolor* (Nutt.) Greene

" ***montanus*** Greene

Plagiobothrys tenellus Gray

" *campestris* Greene

Cryptanthe ambigua Greene
Amsinckia spectabilis F. & M.
Lamium amplexicaule L.
Marrubium vulgare L.
Stachys Californica Benth.
Ramona humilis (Benth.) Greene
Frasera speciosa Dougl.
Apocynum cannabinum L.
Cephalanthus occidentalis L.
Heterocodon rariflorum Nutt.
Agoseris glauca
Taraxacum officinale Weber
Sonchus oleraceus L.
 " *asper* Fischer
Hieracium Parishii Gray
Malacothrix Clevelandii Gray
Ptiloria canescens Greene
Scorzonella silvatica Benth.
Senecio *triangularis* Hook. var.
 Hanseni Greene
Senecio Whippleanus
Antennaria Carpathica var. *pulcherrima*
Gnaphalium Chilense Spreng.
Cotula coronopifolia L.
Soliva sessilis R. & P.
Matricaria discoidea DC.
Artemisia heterophylla Nutt.
Beria chrysostoma F. & M.
Helenium Bigelovii Gray
Blennosperma Californicum (DC.) T. & G.
Eriophyllum croceum Greene
 " *ambiguum* Gray
Balsamorhiza Hookeri Nutt.
Baccharis consanguinea DC.
Solidago Californica Nutt. var. *Nevadensis*
 Gray
Pentstemon exilis (Gray) Greene
Erigeron Hartwegii Greene
Aster Durandi Nutt.
Coleosanthus Californicus (T. & G.) O. Ktze
Dipsacus fullonum Mill.
Asarum Lemmonii.
Rumex acetosella L.
Eriogonum marifolium T. & G.
Amantus retroflexus L.
Salix glauca L. var. *villosa* Andrs.
 " *levigata* Bebb.

Quercus Rinehartiana Hsbn
 " **dubia** Hsbn. (Kelloggii X
 Rinehartiana).

Quercus viridis Hsbn. (Rinehartiana X Wislizeni).

Quercus Greeneana Hsbn.

 " **patula** Hsbn.

Alnus rhombifolia Nutt.

Fraxina Douglasii Carr.

Peranum Menziesii

Coralorrhiza Bigelovii

 " *multiflora*

Habenaria leucostachys Wats.

Cephalanthera Oregana Gray

Unifolium spec. nova.

Allium hyalinum Curran

Disporum Menziesii

Zygadenus speciosus Dougl.

Calliprora scabra Greene

Brodiaea multiflora

Calochortus caeruleus Wats.

 " *venustus* x *luteus*

 " *albus* x *Benthamii*

Juncus scyphoides Meyer

 " *bufonius* L.

 " *chlorocephalus* Engelm.

 " *dubius* Engelm.

 " *effusus* L.

 " *tennis* Willd.

Juncoides divaricatum (Wats.) Coville

 " (*Luzula*) *comosum* (E. Mey) Sheldon

Cyperus aristatus Willd.

 " *melanostachys* HBK.

 " *vegetus* Willd.

Eleocharis palustris (L.) R. & S.

Scirpus microcarpus Presl.

Carex auriculata Bailey

 " *nudata* var. *anomala* Bailey

 " *subfusca* W. Bott.

Agrostis elata Trin.

 " *alba* L.

 " *asperifolia* Trin.

 " " var. *nana elata*

 " *scabra* Willd.

 " *exarata* var. *angustata* Vasey

 " *Scouleri* Trin.

 " *tenuis* Vasey

 " *varians* Trin.

Elymus Sibiricus L.

 " *Sitanion* Schult.

Hordeum nodosum L.

 " " var.

Bromus Hookerianus Thurb.
 " *maximus* Desf.
 " *mollis* L.
 " *ciliatus* L. var.
Festuca microstachys var. *ciliata*.
 " *Myurs* L.
 " *ovipa* L.
Melica Californica Scribner
 " *imperfecta* Trin.
Briza minor L.
Eatonia obtusa Gray, var.
 Koelerioides Scribner
Eragrostis Abyssinica Schimp.
 " *Neo-Mexicana* Vasey
Atropis tenuifolia (Nutt.) Thurb.
Poa annua L.
 " *stenantha* Trin.
Polypogon littoralis Smith

Polypogon Monspeliensis Desf.
Gastridium Australe Beauv.
Epicampes rigens Bth.
Sporobolus gracillimus Scribner
Stipa eminens var. *Andersoni* Vasey
Panicum capillare L.
 " *Crus-galli* L.
 " *dichotomum* L.
 " *sanguinale* L.
 " *near pubescens* Lam.
Gymnogramme
Pteris aquilina L. var.
 lanuginosa (Bory.) Hook.
Cryptomitrium tenerum (Hook.) Aust.
Targionia harpophylla L.
Cetraria ciliaris (Ach.)
 " *juniperina* (L.) Ach.

1397. *Piggotia Fraxini* B. & C. (*Fraxinus Oregana*)
 862, 1348. *Septoglœum Fraxini* Hark. (*Fraxinus Oregana*).
 997. *Leptothyrium Quercinum* (Lasch.) Sacc. (*Q. Kelloggii*).
 1027. *Entomosporium maculatum* Lev. (*Heteromeles arbutifolia*).
 1497. **Septoria** *fumosa* Pk (*Solidago Californica*).
 1204. " *Helianthi* E. & E. (*H. Californicus*).
 1490. " *Rubi* West. (*Rubus vitifolius*).
 1494. " *Scutellariæ* Thum. (*Sc. Bolanderii*).
 1345. " **Ulmi** E. & E. (*Alnus rhombifolia*)
 1017. " *variegata* E. & E. (*Rhamnus tomentella*).
 1032. *Actinonema Rosæ* (Lev.) (*R. gymnocarpa*).
 1192. **Phyllosticta ferax** E & E. (*Lupinus latifolius*)
 990. " *Hederæcola* Dur. & Mont. (*H. Helix*).
 1502. " *Wislizeni* E. & E. (*Quercus Wislizeni*).
 1218. " **livida** E. & E. (*Quercus Douglasii*).
 1505. **Ramulari Helianthi** E. & E. (*H. exilis*).
 1361. " *Sambucina* Sacc. (*S. cœrulea*).
 1014. *Spærella arbuticola* Pk. (*Umbellularia Californica*).
 1471. *Phyllactinia suffulta* Reb. (*Quercus Kelloggii*).
 1353. *Oidium obductum* Ell. & Lang. (*Quercus Kelloggii*).
 1235. **Cladosporium pygmæum** E. & E. (*Vitis Californica*).
 1487. " **Rubi** E. & E. (*Rubus parviflorus*).
 1362. " **foliorum** E. & E. (*Angelica Breweri*)
 1395. " " " (*Trichostema oblongum*).
 1018. *Macrosporium Iridis* Cke. & Ell. (*I. Hartwegii*).
 1028. *Polythrincium Trifolii* Kze. (*Trifolium roscidum*)
 1010. *Phragmidium Fragariastris* (DC.) (*Potentilla Tiltingii*).
 861. " *mucronatum* (Pers.) Lk. (*Rosa gymnocarpa*).

1211. *Cronartium asclepiadeum* (Willd.) var. *Thesii*
Berk. (*Comandra umbellata*).
1209. ***Cylindrosporium*** *Californicum* E. & E. (*Ceano-*
thus Californicus).
1357. " ***Kelloggii*** E. & E. (*Quercus*
Kelloggii).
1004. " *Rhamni* E. & E. (*Rhamnus*
rubra).
1001. *Æcidium porosum* Pk. (*Vicia Californica*).
1012. *Cæoma luminatum* Schw. (*Rosa gymnocarpa*).
- 1206, 1207. ***Puccinia*** *Boisduvaliæ* Pk. (*B. densiflora*).
1493. " *Comandræ* Pk. (*C. umbellatum*
1208. " *Convolvuli* (Pers.) Cast. (*C.*
luteolus).
675. " *Godetiae* E. & E. (*Godetia biloba*)
wrongly distributed as *Puccinia*
Clarkiæ Pk. in previous sets.
1217. " *Gæophyti* Pk. (*G. racemosum*).
1007. " *heterantha* E. & E. (*Cenothera*
heterantha.)
989. " *Hieracii* (Schum.) Mart (*Hypo-*
chæris glabra).
1005. " *intermedia* D. & H. (*Epilobium*
paniculatum). [wegii]
996. " *Iridis* (DC.) Wallv (*I. Hart-*
1025. " *Malvacearum* Mont. (*M. parvi-*
flora).
- 1342, 1473. " *Menthæ* Pers. (*M. Canadensis*).
1360. " *Tanaceti* DC. (*Artemisia hetero-*
phylla).
1482. *Uromyces Hyperici* (Schw.) Curt. (*H. Scouleri*)
1399. " *Junci* Tul. (*J. dubius*).
1237. " *Solidaginis* (Sommf.) Niessl. (*Eriogo-*
num vimineum).
1172. " *Terebinthi* (DC.) Wint. (*Rhus diversi-*
loba).
867. " *striatus* Schrtr. (*Calyptridium um-*
bellatum) wrongly distributed as *U.*
Spraguæ Hark., in previous sets.
988. " *Trifolii* (Hedw.) Lev. (*T. roscidum*).

1191. *Entyloma Saniculæ* Pk. (*S. Nevadensis*).
 937. ***Dimerosporium echinatum*** E. & E. (*Quercus chrysolepis*).
 936. ***Cercospora Hanseni*** E. & E. (*Asclepias ecor-
 nuta*, 1238 on *A. fascicularis*, 1239,
 on *A. speciosus*).
 1396. " ***Coleosanthi*** E. & E. (*C. Californi-
 cus*).
 1334. " ***macrochaeta*** E. & E. (*Quercus
 chrysolepis*).
 1495, " *squalidula* Pk. (*Clematis ligustici-
 folia*)
 1214. " *Ovularia bullata* E. & E. (*Stachys
 bullata*).

QUERCUS.

This is the only genus of the flora of my neighborhood in which I claim knowledge based on original investigation. While my observations in the past eight years have not reached the entireness which I judge they should have ere I publish the results I yet feel warranted in issuing the species as indicated below in my sets of exsiccatae. *Quercus lobata* and *Wislizeni* did not fruit last season, and by the time I have collected the forms in which they occur in my field. I will sum up and publish what knowledge I have gained.

To secure uniformity of sets, I have made up 25 sets of all numbers enumerated, selecting the material for all at the time of first gathering.

I enumerate all forms and stages published under their respective numbers:

chrysolepis Liebm. 966, bushy form, sidebranch and leading shoot. 919, peculiar round leaved form. 207, flowers of an old tree 1465, old tree having retained the serrate margin of leaf as in youth. 1332, very large cup, acorn high and monstrous. 1336, cup as previous, but acorn almost hidden 1456, very small cup and larger acorn 1329, var. **mira** Hnsn. cup surprisingly small and acorn long, almost terete.

vaccinifolia Kell. 204, flowers, shoots and acorns

Douglasii H. & A. 1556, young shoots of chopped off tree, showing wooly foliage. 1226, brush form leaves toothed, leading growth and side branches. 1521, 920, flowers of old trees. 1219, acorns of a normal tree. 1339, acorns of a young tree.

lobata Nee. 1187, shoots of young tree, side branches and leading growth. 202, flowers of old tree.

Greeneana Hnsn. 1330 type. 1333, unusually fertile form.

patula Hnsn. 922 type; perhaps only a var. of *Greeneana*.

Carryana Dougl. 921, doubtful as to its trueness.

Wislizeni A. DC. 967, leading shoot of bushy form as growing when a tree is chopped off. 1227, unusually narrow and open form for bushy growth. 1170, monstrous round leaf, not uncommon though rarely so pronounced. 926, flowers of tree from near its limit of occurrence. 1228, flowers of tree of very large proportions, selected from center of occurrence. 1457, acorns of normal tree.

Kelloggii Newb. 60, flowers of normal tree. 1167, foliage of monstrous dimensions, usually a form with acorn hidden in cup. 1337, leaves deeply lobed. 1461, 1166, acorns of typical trees.

Rinehartiana Hnsn. Species near *Kelloggii*; but distinct in its lanate foliage, shoots and acorns. When young of a deep purple. 924, purplish shoot. 1220, flowers. 1198, acorns of old tree. 1328, 1331, forms of bushy growth. 923, 1458, 1229, 1880, mountain forms from high altitudes.

Morehus Kell. (*Kelloggii* X *Wislizeni*). 1197, flowers. 916, flowers and acorns of unusual long-leaved form. 925, typical tree. 1231, acorns of a short, narrow-leaved form. 1327, form in which I suspect some *Rinehartiana* blood. 1386, **var. nobilis** Hnsn., exceptionally wide foliage.

viridis Hnsn. (*Rinehartiana* X *Wislizeni*). 915, foliage and acorns of type. The purple of the young shoots proves the descent from *Rinehartiana*, the pointed, spined margin of leaf the blood of *Wislizeni*. 914, spring growth of an old tree, showing the foliage of last season as late as middle of April.

dubia Hnsn. (*Kelloggii* X *Rinehartiana*). Difficult to prove in dry state, yet plainer in growing state. 1221, the form (wrongly labeled as *Kelloggii* in some sets) shows plain the blending of characters, part of the purplish lanate foliage when young, and yet the deeply lobed leaves of *Kelloggii*. 1223, 1230, other forms illustrating how "dubious" its kind is, though its existence is natural and abundant.

CORRECTIONS :

Eliminate in Previous List:

Geum macrophyllum Willd.
Rosa gratissima Greene.
Viola pedunculata T. & G.
Eschscholtzia hypocoides Benth.
Ranunculus, alismæfolius Geyer.
Sanicula nemoralis Greene.
Dodecatheon Clevelandi Greene.
Mimulus guttatus DC.
Ilysanthes gratioloides Benth.
Phacelia circinata Jacq.
Gilia capitata Dougl.
Specularia biflora Gray.
Erigeron filifolius Nutt.
 " *foliosus* Nutt.
EQUISETUM ramosissimum Desf.

Correct in Previous List:

Lythrum Hyssopifolia L.
Ranunculus occidentalis Nutt. var. *Eiseni*
 Gray.
Lophanthus urticifolius Benth.
Kelloggia.
Bæria.
Blepharipappus pentachætus Greene.
Chrysopsis.
Amarantus.
Sparganium.

Substitute in Previous List:

Spiræa arbuscula Greene for *Sp. lucida* var. *rosea* Greene (Pitt. ii. pag. 221. Eryth. iii. pag. 63).

Ceanothus Californicus Kell. for *C. integerrimus* H. & A.

Delphinium gracilentum Greene for *D. patens* Benth. (Pitt iii. pag. 15.

Opulaster capitatus for *Neillia capitata* Greene.

Lithophragma scabrella Greene for *Tellima scabrella* Greene Pitt. ii. pag. 162. Eryth. iii. pag. 102.

Eriodictyon Californicum (H. & A.) Greene for *E. glutinosum*.

Solanum cupuliferum Greene (Eryth. iii. pag. 72.) for *S. Hansenii* MSS.

Linanthus pusillus Greene for *Gilia pusilla* Benth.

 " *bicolor* Greene for *Gilia bicolor* Nutt. Pitt. ii. pag. 255.

Sambucus cœrulea Rafq. for *S. glauca* Nutt.

Distegia Ledebourii (Esch.) Greene for *Caprifolium Ledebourii*.

Ptilocalais nutans for *Scorzonella nutans* Hook.

Calycadenia truncata for *Hemizonia truncata*.

" *Fremontii* (Gray) Greene for *Hemizonia Fremontii*.

Centromadia Fitchii (Torr.) Greene for *Hemizonia Fitchii* Torr.

Heleniastrum puberulum (DC.) O. Ktze for *Helenium puberulum* DC.

Chrysothamnus Bloomeri (Gray) Greene for *Aplopappus Bloomeri* Gray Eryth. iii. pag. 115.

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