

Grasses

8

Distichlis spicata?

Creeping beneath the sand on beach,
near the surface, (1-2 inches deep) the
plant of which the specimens are part, 30
ft long, and many more.

San Luis Obispo Nov 25

25

Polygynon monspeliensis

By ditch - Los Angeles. Dec.

(*Polygynon monspeliensis?*)

233

In tufts on dry hill near the sea
San Buenaventura - March 18

301

Trisetum hyemale?

In tufts on dry hill side Santa Barbara, March 18.

323

Trisetum hyemale?

Sides of dry hill Santa Barbara, March

376

Agrostis sp.

Cliff by sea shore, Las Puellas near Sta Barbara, Apr. 25

418

Holcus intercedens

On hill sides Nipoma Apr.

466

Muhlenbergia debilis Trin.

Side of dry hills among rocks

San Luis Obispo Apr.

530

Stipulechrysocephala E. S. P.?

"Bunch Grass" dry sandy hills

near Santa Inez Mission. May 2nd

537

Ruellia cristata

Dry hill sides - near Santa Inez. May 2nd

567

Melica paucoides Nutt. small form

Dry hill sides - near Sta Inez. May 2nd

569

Melica paucoides Nutt.

Dry hill sides - near Sta Inez. Mission May 2-61

589

Croton filiformis

Very common over the low hills of all the Coast Ranges. Sta Lucia Red Hills May 11-

Generally grows larger - very variable in size, and very valuable for paper

613

Thymus

Moist places, Monterey - May 16-61

- 3 614 *Pordium pratense* L. var.
 In grassy fields, Monterey, May 10
- 3 615 *Festuca Myosuroides* -
 on low hills, Monterey, May 10
Agrostis suprepida Trin?
- 3 658 In woods near sea, Monterey, May 25-
- 3 659 *Bromus villosus*,
 In woods near sea - Monterey, May 25-
- 3 665 *Phalaris amabilis* Nutt.
 Among bushes - sandy soil, Monterey May 25-
- 3 735 *Elymus condensatus* Presl.
 In Cañon, often over 6 ft high -
 San Juan, June 29-
- 3 740 *Bromus ciliatus* L.
 Among bushes in ravine San Juan July 1st
- 3 804 *Agrostis villosa*
 Fields - panicle brownish-purple, or purple.
 Sta Cruz, Aug 5th

805 *Phleum pratense* L.

Saved Cruz. Aug 5th

861 *Amnicum Themale* Bolander -

In saline, and often in soil at the Geysers
Nov. 1861. A transient state of something.

This grass is only seen near the Geysers, &
"Little Little Geysers" grows often in soil highly
impregnated with acid sulphates, rocks, and
also on the siliceous centers near the springs -

Grasses of 1862

1000 *Lolium temulentum*

Among wheat and very rare of wheat fields -
Walnut Creek - ~~Apr 24th~~ ^{Apr 30} ~~May 6~~ ^{not rare, but}
is mostly young

1001 *Poa annua* var. *canadensis* -

In wheat fields, Walnut Creek. ^{Apr 30} ~~May 6~~

1024 *Sclerella stipis* *californiana*

By Hills near Walnut Creek Apr 30 -

Forms small bunches, perennial -

1042 *Stylosanthes* *pratensis* L.

In wet place in valley, plant set young Walnut Creek May 12th

- ✓ 1043 *Lophoclaena Californica* Torr
 Wet place in valley. Walnut Creek May 12th 1891
- ✓ 1070 *Atriplex Californica*
 Dry hills; Mt Diablo. May 12.
 Grows in small bunches, foliage very fine
 and short, - known as "Squirrel grass"
 and considered of no value - Comes in the
 soil after the *Avena fatua* has become
 exterminated by the close feeding.
- ✓ 1077 *Festuca microstachya*
 Dry hills on slopes of Mt Diablo May 12 -
 nearly solitary, but few stalks from the
 same root - apparently annual
- ✓ 1112 *Festuca microstachya*
 Dry hills near Mt Diablo. May 19.
- ✓ 1122 *Atriplex Californica*
 "Squirrel Grass" dry hills Mt Diablo. May 19
- ✓ 1142 *Festuca microstachya*
 Mt Diablo in valleys May 21.
 Abundant on dry hills, and on dry gravelly
 bottoms - of but little value

- ✓ 1144 *Festuca microstachya* Trin.
 Top of dry hills, Mt Diablo, May 23.
- ✓ 1182 *Festuca microstachya*
 Dry hills near, Mt Diablo May 24.
- ✓ 1183 *Aira dumetorum* Trin.
 In moist soil, Mt Diablo May 24.
- ✓ 1196 *Festuca ovina* L.
 Hills & dry hills. Livermore Pass ^{June} May 3.
- ✓ 1205 *Trifolium repens* L.
 Hill Side - Livermore Pass June 3.
- ✓ 1208 *Trifolium repens*
 Over low hills about Livermore Pass. - common
 but not abundant. June 3.
- ✓ 1220 *Stemodia elymoides* Nutt.
 "Bunch Grass" over very dry metamorphic
 hills Coral Hollow June 4
- ✓ 1250 *Elymus condensatus* Nutt.
 Puerto Cañon June 11

- 1252 *Panicum spicatum* var. *strictum*
 Alkaline, sandy soil in Puerto Cañon June 11
 Has long underground stems, extending
 several feet - probably the same that
 is found on the sand & sea shore. -
 Common on very alkaline, wet soils

~~1255~~ *Stenonchloa*
Stenonchloa alymmodora
 1258

~~Stenonchloa~~ A common "brush grass"
 over the dry hills and cañons on Cardenas
 of Sierra Range June 11-62

- 1262 *Stipa setigera*
 The most common and valuable "Brush
 Grass" of the dry hills - June 11-

- 1296 *Stipa setigera*
 By spring, (at 2000 ft) Pacheco's Peak
 June 25

- 1436 *Phleum pratense*
 Common in the cold valleys about Mt. Shasta.
 Cultivated - called "Familly" and sown
 with *P. pratense* - Sept 17, 62

- 1468 *Vilfa* - possibly *new*
 Mouth of Deer Creek Cañon - large bunches 4-6 ft high,
 beautiful - Oct 10 -

Index on p. 345+

Nos. 1503 to 1550 inclusive,
Collected by Mr H. M. Bolander in the
vicinity of San Francisco - ^{as his} the wet,

1503. *Elymus condensatus* Nutt.

At the borders of salt marsh at
Oakland where it grows ~~in~~ very
dense, like a wheat field - 5-6 ft
high - in bloom July 10-20

1504 *Elymus hibernicus?*

Common at the Bay, & hills, June

1505 *Festuca secalina*

(Beard Grass) forms tufts a foot in
diameter on the borders of streams &
in the ~~flat~~ ^{wet} hills - The leaves have the
feel of velvet when young & cover at
the lower side and are striated.

1506 *Festuca Myuros*

Covers dry hills in great abundance
in early spring

1507 *Festuca*

Forms tufts at the borders of streams
and in wet hills - June - July

1508 *Setaria viridis* (L.) Gauss.
Sparingly inclined forming tufts.

1509 *Festuca microstachya* Nutt.
Covers dry hills in early spring

1510 *Ditrichum repens*
In garden in July

1511 Not found
Border of a wood in Ockland, June 1847

1512 *Ditrichum repens*
In wet meadows, San Mateo (20 miles S.E. of San Francisco) & sparingly

1513 *Hypochaeris glabra* (L.) Link.
In swamps at "The Willows" (Mission Solares)

1514 *Agrostis verticillata* Vill.
In the garden of Col. Waeker, where it is the principal weed

1515 *Agrostis setacea* (L.) Link.
In swamp near "The Willows"

- 1576 *Agrostis squarrosa*
 Muddy shores, Auckland - Late in June -
- 1577 *Agrostis vulgaris* Willd.
 In fence-corner at "The Willows"
- 1578 *Agrostis squarrosa*
 In open meadows
- 1579 "~~*Agrostis squarrosa*~~" *A. asperifolia* Trin.
 In wet place - later than 1520 and
 with much smaller anthers
- 1520 *Agrostis squarrosa* Trin.
 In exposed precipices along the Bay,
 where it grows large mats.
- 1521 *Agrostis squarrosa*
 Muddy shores on Angel Island - Early
 June -
- 1522 *Agrostis asperifolia* Kunth?
 In valley - Early June, Angel Island
- 1523 *Hesperizon monspeliensis* Steud. + var. *longicauda*
 Common in roads & in wet places

↓ 1524 *Aira hirsuta* Steud. *hirsuta* Nutt.
Wet meadows, and borders of streams
Oakland - July.

↓ 1525 *Aira elongata* Nutt.
Found in great abundance in wet ditches
and wet places

↓ 1526 *Lolium perenne*,
In swamps among willows in great
abundance - July

↓ 1527 *Brizopyrum spicatum* Nutt.
Abundant in salt marshes - June July

↓ 1528 *Brizopyrum Douglasii*
Deciduous - June in pine sand near
beach, with long and creeping -
Culms to 1 ft, erect, at an angle sheaths
above protected from the wind June
3-4 ft high

↓ 1529 *Phalaris amabilis* (L.) Link.
Wet places on Sugar Island, June in
large tufts 2-4 ft in diameter - 5-8 ft high June

- 1530 *Phalaris intermedia*
 Spacing in meadows, at Oakland, in
 wet places - May - June -
- ✓ 1531 *Poa cristata* - long form
 on hills - May, June - is inclined to
 form tufts
- ✓ 1532 *Stipa emmonsii* Cur. *S. mucronata* H. B. K.
 Common on all the hills, forms in
 many places the principal grass
- ✓ 1533 *Danthonia californica*
 I described under the name of
Danthonia californica, is common on
 dry hills where it is generally very
 much reduced in size (*D. secundiflora*
 I think)
- ✓ 1534 *Hordeum pratense*.
 Abundant near salt marshes at
 Oakland.
- ✓ 1535 *Hordeum minimum*.
 Three Corners, common near Bay and
 Mission Dolores

1536

Phalaris

dry hills near Pitt Point - 29 Sept
not ~~at all~~ cultivated.

1537

Distichlis Australis Beauv

It is common on dry hills, in fact it
occupies the place of Distichlis
Myurus when dried up.

1538

Panicum Thermani Bolander -

Is the *Panicum Californicum*, this
name I changed to *P. Thermani*, as it
is only found growing at the Geysers.

1539

Melica imperfecta Trin.

In large tufts, very common, especially
along the Bay - spreads its panicles
white in bloom.

1540

Melica poaeoides Nutt

Dry places, but web-like - avoided
by Cattle - same -

1541

not found

Same as above

↓ 1542 *Bromus* - a young *trichostachyus*?
Among shrubs. Common. June - July.

↓ 1543 *Bromus racemosus*
In woods and meadows, where it
occurs in about the same manner
as *Bromus secalinus* in wheat,
at the least - June.

↓ 1544 *Bromus sterilis* L.
In fence corner near Mission Dolores. June.

↓ 1545 *Lopholobium Californicum* Hook.
In wet places in meadow. 3 miles back
of oakland - is much liked by cattle - seems
too weak to support itself. June
(the most interesting grass found here)

↓ 1546 *Bromus viridis* Nutt.
Common in moist places, and on dry
sand which is apparently moistened
by subterranean springs - exceedingly
variable - The glaucous specimens are
found among others, but ~~are~~ ~~not~~
flowering much later - I have not been able
to distinguish them - June.

1547

Poa Plateau's
Spring in meadows of highlands

1548

Poa trinitatis
Cañon near Mission Dolores

1549

Poa annua
Roads, & ~~collected~~ watered fields

1550

Stropia Californica
Hills near Bay where it assumes
large form

1551

Trisetum ^{barbottum, Steud?}
all pieces, not 5 lbs ~~each~~ only one
Key Bay - common on dry hills, above
it covers large spots - shows its seeds
large - for March & June -

1552

Trisetum cernuum Trin
Common in openings of cañons, also
near Bay where I found the largest
specimens Apr. June.

1553

Sitanion thymoides
By sunny hills, Angel island, Santa Lucia,
Oakland - Common, forming large mat-stocks

variable in size - May-June

✓ 1554

Hydrocotyle

About 7 miles south of San Francisco
in a well wooded swamp in which it
occupies the glades. - End of May -
Bright green large leaves.

✓ 1555

Hydrocotyle

10-15 miles south of San Francisco in
an open swamp subject to overflow
by tide water - June in tufts ~~occupying~~
occupying the more elevated places.
June - apparently not called by Cotto.

✓ 1556

Spartina stricta

Salt marshes, etc.

✓ 1557

Single specimen sent no name

✓ 1558

Ulymus

Bay.

✓ 1559

Ayrostia

Mission Dolores, Cal.

Olypogon

✓ 1560

Locality unknown - Cal.

Grasses collected in California
in 1863 by W. H. Brewer, H. A. Bolander
and Dr. Wm. Hillebrand -

1825 to 2189 - Sierra Nevada - Coll. by W. H. Brewer

1825 *Atropis Californica*

In woods at alt 6000-7000 ft, on
the Yosemite trail, June 15

1846 *Panicum dichotomum*

By sandy soil in Yosemite Valley,
at 4,500 ft. Common on sand and
among rocks June

1865 *Pleurum alpinum*

Damp hill sides - Head of Tuolumne
river at ^{9,100}~~8,700~~ ft. July 3rd -

1842 *Elymus condensatus* -

Common about Mount Lake, and the
dry regions east of the Sierras, 6000-7000 ft.

Generally on rather dry soil, often 7 ft.
high, from a tough perennial
root, in large bunches - July

~~seed~~

1846 *Brizopyrum spicatum*.
Dioecious grass saline soil on the
Islands in Mono Lake ^(8500 ft) - ~~seen~~ seen
Common on saline and alkaline
soils at various altitudes - Creeps
by running stems

1921 ~~*Atriplex*~~ *Atriplex* ~~*leucophylla*~~ *multica*
By rocks, at Sonora Pass at
about 7000-8000 ft. Not seen much
higher - July 21st -

1922 ~~*Atriplex*~~ *Atriplex Californica*
With last, but not abundant -

1947 *Festuca subspicata* var. *molle*.
Common - Big Tree Road - 5000-5500 ft.
July 30 -

1965 *Phleum alpinum*.
Moist meadows, Silver Valley ^{7200 ft}
July 31 -

1976 *Festuca* - low alt -
By Hell Side, above Silver Valley
8000 ft - July 31st

- 1998 *Sitonia elymoides*.
By Hill sides, at 9000 ft - above
Carson Pass, - Aug 2nd
- 1999 *Atriplex Californica*
Moist hill sides, near Lost.
- 2044 *Trisetum subspicatum*
Near summit of Silver Mountain
11,000 ft. Aug 5-
- 2067 *Glyceria verrucosa* Trin.
By Brook. Scandinavian Cañon - 7000 ft.
Aug 6th
- 2068 *Triticum violaceum* Hornem.
Very dry places - 8000-9000 ft - Aug 7 -
near Silver Mountain trail
- 2072 *Sitonia elymoides*
By Hill sides - Near Silver Mountain trail
8000-9000 ft - Aug 7
- 2073 *Phleum alpinum*.
Moist places, near Lost - 8000 ft. Aug 7

2077

Atriplex Canadensis?Dry hills, alt 8000-9000 ft., near
Silver Mountain trail. Aug 7

2078

*Atriplex Californica*Rather moist places, 8000-9000 ft.,
Near Silver Mountain trail, Aug 7

2088

Bromus ciliatus var.Dry hills 8000-9000 ft., near Silver
Mountain trail Aug 7th

2118

Triticum curivum B. Kuhnlein det.Dry places near summit of
Carson Pass. 8000 ft. Aug 16th

2128

Calamagrostis sp.In valley near summit of Carson
Pass. 8000 ft. Aug 16

2169

Panicum dichotomum var.?Around all the hot springs south
East of Lassen's Peak, often on
very saline soils, and very near
hot water and hot steam - Sept 24

Numbers 2217 to 2231, Collected by
Dr J. G. Cooper at Fort Mohave,
Colorado River and Mohave River,
Winters of 1860-61

2217 *Aristida leuifolium* Shrub.
Fort Mohave

2218 *Frustris pulchella*.
6 in. high, in fruit - gravel plains
at Fort Mohave - Dec. 60 - March 61

2219 *Elymus condensatus* -
5 ft. high - Green - Bottom lands -
The best grass at Mohave River June 5 -

2220 *Polygouon Montpelienis*.
2 ft high - Camp Cady, Mohave River
June 2nd 1861

2221 *Brizopyrum spicatum* - strictum
Greenish-yellow - Marsh at Soda Lake -
- Sink of the Mohave - May 31 -

2222. *Phragmites communis*.
10 ft high - Marshes at Soda Lake -
Sink of the Mohave River - plant
piled - May 31 -

- 2223 *Eriocoma cuspidatum* Nutt.
2 ft high - top of Providence Mountain
and west to Cajon Pass May 29-61
- 2224 *Stenotaphrum secundatum* -
2 ft - greenish purple - E. slope of
Providence Mountain - May 29-61
- 2225
2 ft high - Summit of Providence
Mountains - 5000 ft - May 29-61
- 2226 *Bouteloua oligostachya* -
6 in. Anthers purple - Summit of
Providence Mountain - 5 - Collier
Buffalo Grass - May 29-61
- 2227 *Panicum Graminifolium* -
3 ft high - Greenish brown -
Colorado Valley - Lat. 25° - In garden -
introduced? - May 19-61
- 2228 *Panicum capillare* -
Greenish yellow - In garden -
introduced? Colorado Valley - May 20/61
- 2229 *Festuca microstachya* Nutt. - reduced form
Mohave - May -

2230

Plantago major
4 ft high - greenish purple -
Fort Mohave - Feb. 24

2231

Sporobolus airoides
3 ft. Anthers purple - in tufts -
purplish - Sandy bottoms - Fort
Mohave - March 25 -

No's 2232 to 2240 -

Collected by Dr. J. G. Cooper at San
Diego - Cal - 1862

2232

Alropis uniflorus
2 ft - Sand near sea beach - San Diego
March 25 - 62

2233

Stipa setigera
4 ft - greenish - Sand near sea beach -
San Diego - March 19 - 62

2234

Hordeum pusillum Nutt.
2 ft. yellow - Gravel Hill - San Diego
Apr. 3 - 62

- 2235 *Pennisetum brevisistatum* -
 4 ft. greenish - sandy sea beach
 San Diego Apr 3/62
- 2236 *Pennisetum viride*?
 2 ft. greenish - sand near sea shore -
 San Diego March 10/62
- 2237 Nothing to determine form.
 30 ft - Woody. fl.? damp soil -
 introduced - rare - San Diego - March 15/62
- 2238 *Pennisetum*
 3 in. Grayish - Pastures - San Diego. March 15/62
- 2239 *Hordium murinum*.
 San Diego. March - 1862
- 2240 *Atriplex californica*
 3 ft - greenish - dry soil hills -
 San Diego - March 14/62
- 2241 *Bouteloua polystachya*
 Purplish - gravel plain at Fort
 Mohave - Feb. 23/61 - J. G. Cooper

- 2242 *Pleurum alpinum*
 43 *Pleurum pratense*
 44 *Calamagrostis Canadensis*
 45 ————— " *deuda* -
 46 *Circa cuspidata* var -
 47 *Agr. Curiana* Trin?
 48 *Agr. Pyramidalis*
 49 *Ayrostis scabra*
 2250 " "
 51 *Ayrostis* sp. nov -
 52 *Glyceria verrucata* Trin
 53
 54
 55 *Stipa viridula* Trin.
 56 *Glyceria verrucata* "
 57 *Triticum caninus*
 58 *Bromus ciliatus* L.

Stipa depumata Trin. *Pleurum verrucata*
 alt. 4000 - 6000 ft. no number
Friestema subspicata 2002 - not on list -
Atriplex Calif - 2003 & 2004, no loc & not on list

Numbers 2242 to 2258 inclusive
 Collected by Dr Wm. ^{Hillebrand} ~~Hillebrand~~
 at Big Trees, Colavara Cr - alt
 4770 ft. Spring 7 1863 - and sent by
 Mr Bolander -

2242 to }
 2258 } Big Trees. by Dr Wm. Hillebrand

Numbers 2259 to 2269
 inclusive, collected by H. G. Bloomer
 Esq. at and near Virginia City, Nevada
 Territory - Spring and Summer of
 1863 - sent by Mr. Bolander -

2259 }
~~2269~~ } Virginia City, N.T. collected by
 2259 } H. G. Bloomer Esq.
 Altitude of Virginia City 6,400 ft.

- 2259 Festuca ~~sp.~~ ^{sp. nov.} - see this.
- 60 Alopecurus geminatus var aristatus
- 61 Stipa occidentalis Nutt - (see this)
- 62 Melica proserpina
- 63
- 64 Sporobolus asperifolius Nees & Mey.
- 65 Panicum capillare.
- 66 Atropis bulbif.
- 67 " "
- 68 Agrostis asperifolia Trin?
- 69 Atropis bulbif.

Numbers 2270 to 2297. Grasses
Collected by H. N. Bolander Esq., near
San Francisco, 1863

- 2270 *Holcus lanatus* L.
Swamp. S. F.
- 2271 *Ayrostis alba* & *Mulgaris*.
Swamp. S. F.
- 2272 *Ayrostis asperifolia*
Swamp. S. F.
- 2273 *Glyceria paniculata* Nutt.
Swamp. S. F.
- 2274 *Caulmayrostis Aleutica* Trin.
Oakland Hills - Habit of bunch grass
- 2275 *Elymus condensatus*?
Fort Point - S. F.
- 2276 *Festuca paniculata microstachys*
Oakland Hills
- 2277 *Poa trivialis*.
Fields

- 2278 *Agr. Sparuta*
Along Bay, and on dry hills
- 2279 *Milium*
Marin Co. among the Redwoods
- 2280 *S. setigerum*
Common, on plains
- 2281 *Milium bonavillei*
Hills
- 2282 *Agrostis Sparuta*
About the Bay
- 2283 *A. Sparuta*
Hills
- 2284 *Elymus Sibiricus*
Marin County
- 2285 *Elymus Sibiricus*
San Francisco
- 2286 *Agrostis asperifolia*
Swamps, San Francisco

- 2287 *Phalaris intermedia* Bosc.
Swamps - S. F.
- 2288 *Lolium perenne* -
Swamps, San Francisco
- 2289 *Bekmannia erucaformis*.
Oakland Hills
- 2290 *Phleum pratense*
Swamps
- 2291 *Festuca microstachys*.
Oakland Hills
- 2292 *Atriplex Californica*.
Oakland Hills
- 2293 *Festuca paniculata* Thunb.
Oakland Hills
- 2294 *Cyrtus verticillatus*
About Bay
- 2295 *Cyrtus asperifolius*
By Hills
- 2296 *Festuca ovina* -
About Bay -

Numbers 2417 to 2421 inclusive,
Collected by H. N. Bolander on a trip
to Clear Lake, Sept. 1863

- 2417 *Paspalum distichum* L.
Meadows. Clear Lake
- 2418 *Leersia alcyonoides*
Banks of Cache Creek
- 2419 *Panicum crus-galli*
Napa Creek
- 2420 *Panicum Capilare*
Clear Lake - Common
- 2421 *Phragmites Capilare* L.
Clear Lake
- 2493 *Agrostis exarata* L.
Tomales Bay - Marin Co. by Bolander