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No. 2.

GENERAL CATALOGUE OF THE PLANTS COLLECTED ON  
THE EXPEDITION.

BY J. S. NEWBERRY,

ASSISTED BY ASA GRAY AND JOHN TORREY, AS SPECIFIED IN THE PROPER PLACES.

I. EXOGENOUS PLANTS.

RANUNCULACEÆ.

CLEMATIS LIGUSTICIFOLIA, *Nutt.*; *Torr. & Gray, Flor. N. Amer.* 1, p. 9. Banks of Sacramento river, Cal.; July, in flower. Klamath Basin, Pit river; August, in fruit. Dalles of the Columbia.

RANUNCULUS AQUATILIS, *Linn.*; *Pursh. Fl.* 2, p. 395; *DC. Prod.* 1, p. 26. McCumber's Flat; July, in flower. Pit river; July, in fruit. Common in N. Cal. and Oregon. Wherever observed, this plant had large flowers, and no emerged leaves.

RANUNCULUS OCCIDENTALIS, *Nutt.*; *Torr. & Gray, Flor. N. Amer.* 1, p. 22. McCumber's Flat, N. Cal.

RANUNCULUS PURSHII. (?) *Richardson, Hook. Flor. Bor.-Amer.* 1, p. 15. Upper Klamath lake, O. T. Plant very small, and may be distinct from *R. Purshii*.

RANUNCULUS CALIFORNICUS, *Benth. Plant. Hartweg*, 1628. *R. dissectus*, *Hook. Bot. Beech.* p. 316. *R. delphinifolius*, *Torr. & Gray, Flor. Suppl.* p. 659. Petaluma, Cal.; common in the Sacramento valley.

ACONITUM NAPELLUS, *Linn.* var. *DELPHINIFOLIUS*, *Seringe*; *Torr. & Gray, Flor.* 1, p. 34. Head of Des Chutes river. Cascade mountains, O. T.; September, in flower.

THALICTRUM BIOCUM, *Linn.*; *DC. Prodr.* 1, p. 12; *Hook. Flor. Bor.-Amer.* 1, p. 3; *Torr. & Gray, Flor. I.* p. 38. Sacramento valley, Cal.

AQUILEGIA CANADENSIS, *Linn.*; *Torr. & Gray, Flor. N. Amer.* 1, p. 29. *A. formosa*, *Fisch. in DC. Prodr.* 1, p. 20. Shingletown and McCumber's Flat, N. Cal.; large, showy, grows in moist places.

DELPHINIUM DECORUM, *Fisch. & Meyer, Hort. Petrop.*, p. 32. Fort Reading, Cal.

DELPHINIUM PATENS, *Benth. Plant, Hartweg*, 1632. Crater pass, Cascade mountains, Oregon; September 1.

DELPHINIUM AZUREUM, *Michx. Flor.* 1, p. 314. Shores of San Pablo bay; July.

DELPHINIUM MENZIESII, *DC. Hook. Flor. Bor.-Amer.* 1, p. 25. Hat creek, Cal.; July.

DELPHINIUM NUDICAULE, *Torr. & Gray, Flor. N. Amer.* 1, pp. 33 & 661. *D. sarcophyllum*, *Hook. & Arn. Bot. Beechey*, p. 317. Sonoma, Cal.; flowers red.

ANEMONE ALPINA, *Linn.*; *Hook. Flor. Bor.-Amer.* 1, p. 5.; *DC. Prodr.* 1, p. 17. Crater pass, Cascade mountains, Oregon; September, in fruit. Willamette valley; May, in flower; from Dr. Evans.

PÆONIA BROWNII, *Dougl.*; *Torr. & Gray, Flor. N. Amer.* 1, p. 41. P. Californica, *Nutt.* Cascade mountains, Oregon; lat. 44° 30'.

The flowers of this plant are erect, but when the seed is nearly ripe the stalks which support the carpels curve downward and outward until the carpels themselves rest on the ground accurately inverted. The dehiscence of the carpels takes place at the summit, and the bean-like seeds are carefully deposited on the ground and roofed over by the persistent carpels, probably through the winter.

On the banks of Mpto-ly-as river, near the base of Mount Jefferson, Oregon, at an altitude of 5,000 feet, in September, I found large surfaces covered with this plant, which had already been touched by the frost. Of the hundreds of clusters of pods, all were inverted and resting on the ground, completely covering the seed, which had generally fallen out. The carpels are from 3 to 5 in a cluster, the number varying in the same plant.

ACTÆA SPICATA, *Linn.* VAR RUBRA, *Bigelow, Flor. Bost. ed. 2d, p. 211.* Cascade mountains; lat. 44° 12'.

## BERBERIDACEÆ.

BERBERIS AQUIFOLIUM, *Pursh. Flor.* 1, p. 219, t. 4. Banks of Pit river and Klamath basin.

BERBERIS GLUMACEA, *Spreng.*; *Lindl. Bot. Reg. t. 1425.* Mahonia nervosa, *Nutt. Gen.* 1, p. 212. M. glumacea, *DC. Prodr.* 1, p. 19. Very abundant in spruce forests in Cascade mountains and Willamette valley, O. T. Fruit blue, acid, but eatable; called Oregon grape.

ACHLYS TRIPHYLLA, *DC.*; *Hook. Flor. Bor.-Amer.* 1, p. 30, t. XII. Willamette valley; May, in flower; Cascade mountains, O. T.; September, in fruit. This singular plant grows in moist places, and has much the habit and appearance of Jeffersonia diphylla. The flower is quite fragrant.

## CRUCIFERÆ.

LEPIDIUM NITIDUM, *Nutt.*; *Torr. & Gray, Flor.* 1, p. 116. San Francisco, Cal.

NASTURTIUM LYRATUM, *Nutt.*; *Torr. & Gray, Flor.* 1, p. 73. Dalles of the Columbia, O. T.; October, in flower.

CARDAMINE PAUCISECTA, *Benth. Plant. Hartw.* 1646. Petaluma, Cal.

BARBAREA VULGARIS, *R. Br.*; *Benth. Plant. Hartw.* p. 297, No. 1645. Shores of Klamath lake.

ERYSIMUM ELATUM, *Nutt.*; *Torr. & Gray, Flor.* 1, p. 95. Common in Sacramento valley and Klamath basin.

CAPSELLA BURSA-PASTORIS, *Moench.*; *Torr. & Gray, Flor.* 1, p. 117. Fort Vancouver, W. T. Introduced.

## FUMARIACEÆ.

DIELYTRA FORMOSA, *DC. Syst.* 2, p. 109; *Torr. & Gray, Flor. N. Amer.* 1, p. 67. Cascade mountains, O. T.; August.

## PAPAVERACEÆ.

ESCHSCHOLTZIA DOUGLASII, *Hook. & Arn. Bot. Beechey,* p. 320; *Torr. & Gray, Flor.* 1, p. 664. Suisun valley; July, in flower.

ESCHSCHOLTZIA CALIFORNICA, *Cham.*; *Torr. & Gray, Flor. 1, p. 664.* Fort Reading, Cal.; April, in flower; July, in fruit.

PLATYSTEMON CALIFORNICUM, *Torr. & Gray, Flor. 1, p. 65*; *Benth. Hort. Trans. (2d series) 1, p. 407.* Petaluma, Cal.

PLATYSTIGMA LINEARE, *Benth. l. c.*; *Torr. & Gray, Flor. 1, p. 65.* San Pablo bay.

#### NYMPHÆAHACEÆ.

NUPHAR ADVENA, *Ait.*; *Pursh. Flor. 2, p. 369*; *Torr. & Gray, Flor. 1, p. 58.* Whole plant large; pods of the size of an egg. Common in the Klamath basin. Klamath marsh is half covered by the floating leaves. The seeds, which fill the large pods, are larger than those of the eastern plant, and form an important article of subsistence among the Indians. We saw many hundred bushels of the pods collected for winter use. The seed tastes like that of the broom corn, and is apparently very nutritious.

#### VIOLACEÆ.

VIOLA ADUNCA, *Smith in Rees' Cycl.*; *Hook. Flor. Bor.-Amer. 1, p. 79.* Willamette valley, O. T.; October, in flower.

VIOLA LONGIPES, *Nutt.*; *Torr. & Gray, Flor. 1, p. 140.* Willamette valley, O. T.; Petaluma, Cal.; October, in flower.

VIOLA SARMENTOSA, *Dougl.*; *Hook. Flor. Bor.-Amer. 1, p. 80.* San Francisco and Sonoma.

VIOLA PEDUNCULATA, *Torr. & Gray, Flor. 1, p. 141.* San Francisco, Cal.

VIOLA CHRYSANTHA, *Hook. Ic. 1, t. 49.* *Torr. & Gray, Flor. 1, p. 134.* Fort Reading, Cal.

VIOLA SHELTONI, *Torr. in Whipple's Rep.* Banks of Yuba river, Sacramento valley; July.

VIOLA CUCULLATA, *Ait.*; *Torr. & Gray, Flor. 1, p. 139.* Willamette valley; October, in flower.

VIOLA OCELLATA, *Torr. & Gray, Flor. 1, p. 142.* Near San Francisco, Cal.

#### MESEMBRYANTHEMACEÆ.

MESEMBRYANTHEMUM DIMIDIATUM, *Harv.* Common along the shores of the straits at San Francisco, where it has been probably introduced.

#### HYPERICACEÆ.

HYPERICUM SCOULERI, *Hook. Flor. Bor.-Amer. 1, p. 111.* McCumber's, N. Cal.; July, in flower; and Klamath basin, O. T.; August, common.

#### CARYOPHYLLACEÆ.

MOLLUGO VERTICILLATA, *Linn.*; *Torr. & Gray, Flor. 1, p. 76.* McCumber's Flat, N. Cal.

SILENE DRUMMONDI, *Hook. Flor. Bor.-Amer. 1, p. 89.* *Torr. & Gray, Flor. 1, pp. 91 & 675.* McCumber's and Klamath basin; July and August.

STELLARIA LONGIPES, *Goldie, in Edinb. Phil. Jour. 6, p. 185*; *DC. Prodr. 1, p. 400.*; *Torr. & Gray, Flor. I, p. 184.* McCumber's Flat, N. Cal.

STELLARIA NITENS, *Nutt. in Torr. & Gray, Flor. 1, p. 184.* Near Portland, Oregon; Oct.

#### PORTULACACEÆ.

CLAYTONIA ALSINOIDES, *Sims, Bot. Mag. t. 1309*; *Torr. & Gray, Flor. 1, p. 199.* Cascade mountains, O. T.; August 26.

CLAYTONIA PERFOLIATA, *Don. Bot. Mag. t. 1336; Torr. & Gray, Flor. 1, p. 200 & 676.* Near San Francisco, California; May.

CLAYTONIA PARVIFOLIA, *Mocino, in DC. Prodr. 3, p. 361.* *C. filicaulis, Hook. Flor. Bor.-Amer. 1, p. 224.* McCumber's, Northern California; July.

CALANDRINIA MENZIESII, *Hook. Flor. Bor.-Amer. 1, p. 223, t. 10; Torr. & Gray, Flor. 1, p. 197.* Fort Reading, California; April.

SPRAGUEA UMBELLATA, *Torr. Plant. Fremont. p. 4, t. 1.* McCumber's, California. Crater Pass, Cascade mountains, altitude 6,700 feet. At McCumber's this plant has acute leaves, erect flower stems, and pale cream-colored flowers. On the summits of the Cascade mountains I found the whole plant spread mat-like on the sand, small, with truncated leaves and purple flowers and stems.

#### STERCULACEÆ.

FREMONTIA CALIFORNICA, *Torr. Pl. Fremont. in Smithson. Contrib. 6, p. 5, t. 2.* Near Fort Reading, California. July 27-30, in fruit.

#### MALVACEÆ.

SIDALCEA MALVÆFLORA, *Gray. Pl. Wright. 1, p. 16.* McCumber's and Hat Creek, N. California; August 1 to 10; in flower.

SIDALCEA HIRSUTA, *Gray. Pl. Wright 1, p. 16.* *S. delphinifolia, Gray, Pl. Fendl. p. 19.* McCumber's, July 29; in flower.

SIDALCEA HARTWEGI, *Gray. Pl. Fendl., p. 209; Benth. Pl. Hartw. p. 300.* Fort Reading; April, in flower.

MALVA BOREALIS, *Wallr.; Gray. Pl. Fendl., p. 15.* *M. obtusa, Torr. & Gray, Flor. 1, p. 225.* Common in the southern portions of the Sacramento valley.

MALVA HEDERACEA, *Dougl. in Hook. Flor. Bor.-Amer. 1, p. 107.* Near Benicia; July 1, in flower.

#### LINACEÆ.

LINUM PERENNE, *Linn.; Torr. & Gr. Flor. 1, p. 204; Hook. Flor. Bor.-Amer. 1, p. 106.* Common in northern California and Klamath basin; used by the Indians for making twine, of which they make nets for catching fish and birds.

LINUM CALIFORNICUM, *Benth. Pl. Hartw., p. 298.* McCumber's, Northern California; July. Much smaller plant than the last; flowers white.

#### GERANIACEÆ.

GERANIUM INCISUM, *Nutt. G. albiflorum var. incisum, Torr. & Gr. Flor. 1, p. 208.* *G. albiflorum, Hook. Flor. Bor.-Amer. 1, p. 116, t. 40.* On the banks of a small tributary of the Columbia, near the Dalles. October 1, in flower; flowers nearly white.

ERODIUM CICUTARIUM, *L'Herit., DC. Prodr. 1, p. 646; Torr. & Gray, Flor. 1, p. 208.* Common in all parts of the Sacramento valley, in the Klamath basin, and on the Columbia. In flower from June to November.

#### OXALIDACEÆ.

OXALIS CORNICULATA, (*Linn.*) *Arn.; D.C. Prodr., 1, p. 692; Hook. Flor. Bor.-Amer. 1, p. 117.* Willamette valley, O. T.; October, in flower. San Francisco, California; November.

OXALIS OREGANA, *Nutt. in Torr. & Gray, Flor. 1, p. 211.* Willamette valley, O. T.; October.



*O. Acetosella*, *Hook. Flor. Bor.-Amer.* 1, p. 118, in part. Flowers large, pink; whole plant larger than *O. Acetosella*, as it grows on the shores of Lake Superior.

## LIMNANTHACEÆ.

*LIMNANTHES DOUGLASSII*, *R. Br. in Lond. & Edinb. Philos. Mag. July*, 1833; *Benth. Hort. Trans.* (2 ser.) 1, p. 409. Shores of San Pablo bay; April.

## ANACARDIACEÆ.

*RHUS DIVERSILOBA*, *Torr. & Gray, Flor.* 1, p. 218. *R. lobata*, *Hook. Flor. Bor.-Amer.* 1, p. 127. Common throughout northern California; more rare in the Klamath basin. Specimens from Fort Reading; April, in flower, July, in fruit. Berries white; called by the inhabitants of California "poison oak." Several of our party were poisoned by it, and it also affected some of our mules.

## ACERACEÆ.

*ACER MACROPHYLLUM*, *Pursh. Flor.* 1, p. 267; *Hook. Flor. Bor.-Amer.* 1, p. 112, t. 38; *Nutt. Sylv.* 2, p. 76, t. 67. Cascade Mountains and Willamette Valley, O. T.

*ACER CIRCINATUM*, *Pursh, Flor.* 1, p. 266; *Hook. Flor. Bor.-Amer.* 1, p. 112, t. 39. Willamette valley, O. T.

*ACER GLABRUM*, *Torr. Ann. Lyc. Nat. Hist. N. York*, 2, p. 172. Cascade mountains, O. T.

*ACER TRIPARTITUM*, *Nutt. in Torr. & Gray, Flor.* 1, p. 247. Cascade mountains, O. T.

## HIPPOCASTANACEÆ.

*ÆSCULUS CALIFORNICA*, *Nutt. in Torr. & Gray, Flor.* 1, p. 251, & *Sylva*, 2, p. 69, t. 64. Common throughout the valleys of California. In flower July 1st.

## CELASTRACEÆ.

*EUONYMUS OCCIDENTALIS*, *Nutt. in Torr. & Gray, Flor.* 1, p. 258. Coast near San Francisco; May, in flower. Very nearly allied to *E. atropurpureus*; perhaps not distinct.

## RHAMNACEÆ.

*RHAMNUS PURSHIANUS*, *DC.; Hook. Flor. Bor.-Amer.* 1, p. 123, t. 43.

*FRANGULA CALIFORNICA*, *Gray, Gen. Illust.* 2, p. 178, & *Pl. Wright.* 2, p. 28. *R. oleifolius*, *Hook. Flor. Bor.-Amer.* 1, p. 123. *R. laurifolius*, *Nutt.; Torr. & Gray, Flor.* 1, p. 263. Fort Reading; July. Shore of Klamath lake; August, in fruit.

*CEANOTHUS VELUTINUS*, *Dougl. in Hook. Flor. Bor.-Amer.* 1, p. 125, t. 45. Common in the Cascade mountains, O. T. The pubescence of this plant is very variable, and I have been unable to distinguish it from *C. levigatus*.

*CEANOTHUS THYRSIFLORUS*, *Esch.; Bot. Reg.* 30, t. 38; *Torr. & Gray, Flor.* 1, p. 266; *Nutt. Sylv.* 2, p. 43, t. 57. Very common about San Francisco.

*CEANOTHUS PROSTRATUS*, *Benth. Pl. Hartw. No.* 1683. Pine woods in northern California; grows in a mat on the ground.

*CEANOTHUS CUNEATUS*, *Nutt.; Torr. & Gray, Flor.* 1, p. 267. Near Fort Reading; July, in fruit.

*CEANOTHUS INTEGERRIMUS*, *Hook. & Arn. Bot. Beech. p.* 329; *Benth. Pl. Hartw. No.* 1684. Near Fort Reading; July, in fruit and flower.

## VITACEÆ.

VITIS CALIFORNICA, *Benth. Bot. Sulph. p. 10, Pl. Hartweg, No. 1679.* Banks of Sacramento river. July, in young fruit.

## POLYGALACEÆ.

POLYGALA CUCULLATA, *Benth. Pl. Hartw. p. 299.* P. cornuta, *Kellogg, Proceed. Cal. Acad. 1, p. 62.* McCumber's Flat, northern California. Much more shrubby than Bentham's plant.

## FRANKENIACEÆ.

FRANKENIA GRANDIFOLIA, *Cham. & Schlect. in Linn. 1, p. 35; Torr. & Gray, Flor. 1, p. 168.* Shores of San Francisco bay.

## LEGUMINOSÆ.

VICIA OREGANA, *Nutt. in Torr. & Gray, Flor. 1, p. 270.* McCumber's, N. Cal. July, in flower. Pit river; August. Klamath basin; August, in fruit.

VICIA GIGANTEA, *Hook. Flor. Bor.-Amer. 1, p. 157; Torr. & Gray, Flor. l. c.* Near San Francisco; April, in flower.

VICIA AMERICANA, *Muhl. in Willd. sp. 3, p. 1096; Pursh. Flor. 2, p. 471; Torr. & Gray, Flor. 1, p. 269.* Banks of Canoe creek, N. Cal.; August, in flower.

VICIA TRUNCATA, *Nutt. in Torr. & Gray, Flor. 1, p. 270.* Banks of Hat creek, N. Cal.; July. Banks of Pit river; August, in flower and fruit.

TRIFOLIUM LONGIPES, *Nutt. in Torr. & Gray, Flor. 1, p. 314.* Fort Reading, N. Cal.; July.

TRIFOLIUM ALBOPURPUREUM, *Torr. & Gray, Flor. 1, p. 313.* Fort Reading, N. Cal.; July, in fruit. Specimens were presented me by Dr. J. F. Hammond, surgeon at the fort; collected in April, in flower. Plant decumbent, spreading, a foot high; silky-pubescent; heads and flowers as in the description, but plant much stronger. One of the prettiest species which I met with.

TRIFOLIUM VARIEGATUM, *Nutt. in Torr. & Gray, Flor. 1, p. 317.* Shores of San Pablo bay, California.

TRIFOLIUM TRIDENTATUM, *Lindl. Bot. Reg. t. 1070.* In Sacramento valley and at Fort Reading.

TRIFOLIUM PRATENSE, *Linn.; Torr. & Gray, Flor. 1, p. 313.* Fort Vancouver; introduced.

TRIFOLIUM REPENS, *Linn.; Eng. Bot. t. 1769.* Fort Vancouver, W. T.; introduced.

TRIFOLIUM FIMBRIATUM, *Lindl. Bot. Reg. t. 1070; Hook. Flor. Bor.-Amer. 1, p. 133.* McCumber's, N. Cal.; July.

LUPINUS NANUS, *Dougl.; Benth. in Hort. Trans. p. 459, t. 14, fig. 2; Pl. Hartw. p. 303.* Shores of San Pablo bay, California.

LUPINUS MICRANTHUS, *Dougl.; Agardh, in Bot. Reg. t. 1251; Torr. & Gray, Flor. 1, p. 373.*

LUPINUS ALBIFRONS, *Benth. in Hort. Trans. p. 410; Torr. & Gray, Flor. 1, p. 377; Lindl. Bot. Reg. t. 1642.*

LUPINUS LATIFOLIUS, *Agardh; Torr. & Gray, Flor. 1, p. 375; Lindl. Bot. Reg. t. 1642.*

LUPINUS POLYPHYLLUS, *Lindl. Bot. Reg. t. 1097; Hook. Flor. Bor. Amer. 1, p. 164.* Moist places at McCumber's, and about the Klamath lakes.

LUPINUS ORNATUS, *Dougl. in Bot. Reg. t. 1216; Torr. & Gray, Flor. 1, p. 378.* Banks of Pit river.

LUPINUS LEPIDUS, *Dougl. in Bot. Reg. t.* 1149; *Torr. & Gray, Flor. 1, p.* 374. Banks of Hat creek, California.

LUPINUS MACROCARPUS, *Hook. & Arn. Bot. Beech. p.* 138. About San Francisco, California. Shrubby; flowers verticillate.

LUPINUS LEUCOPHYLLUS, *Lindl. Bot. Reg. t.* 1124; *Torr. & Gray, Flor. 1, p.* 379. Dalles of the Columbia.

THERMOPSIS MACROPHYLLA, *Hook. & Arn. Bot. Beech. p.* 329; *Torr. & Gray, Flor. 1, p.* 388.

HOSACKIA BICOLOR, *Dougl.; Benth. in Bot. Reg. t.* 1257; *Torr. & Gray, Flor. N. Amer. 1, p.* 323. Shores of San Pablo bay.

HOSACKIA PURSHIANA, *Benth. Pl. Hartweg. No.* 1701; *Torr. & Gray, Flor. N. Amer. 1, p.* 325. Upper Sacramento valley and McCumber's, N. Cal.; common.

HOSACKIA OBLONGIFOLIA, *Benth. Pl. Hartweg. p.* 305. Upper cañon of Pit river.

HOSACKIA DECUMBENS, *Benth. in Linn. Trans. 17, p.* 346; *Torr. & Gray, Flor. 1, p.* 323.

HOSACKIA SUBPINNATA, *Benth. Pl. Hartweg. l. c.; Torr. & Gray, Flor. 1, p.* 326. Petaluma, California.

HOSACKIA GRACILIS, *Benth. in Linn. Trans. 17, p.* 365; *Torr. & Gray, Flor. 1, p.* 323. San Francisco, California.

GLYCYRRHIZA LEPIDOTA, *Nutt. Gen. 2, p.* 106; *Torr. & Gray, Flor. 1, p.* 297; *Hook. Flor. Bor.-Amer. 1, p.* 138. McCumber's and Pit river, California; July.

## ROSACEÆ.

NUTTALLIA CERASIFORMIS, *Torr. & Gray, in Hook. & Arn. Bot. Beechey, p.* 336, *t.* 82; *Torr. & Gray, Flor. 1, p.* 412, *Benth. Pl. Hartw. No.* 1707.

GEUM MACROPHYLLUM, *Willd. Enum. 1, p.* 557; *DC. Prodr. 2, p.* 550; *Torr. & Gray, Flor. 1, p.* 421. McCumber's, N. California.

SPIRÆA CÆSPITOSA, *Nutt. Torr. & Gray, Flor. N. Amer. 1, p.* 418; *Gray, Pl. Fendl. p.* 40. Crater pass, Cascade mountains; latitude 44°, altitude 6,700 feet.

SPIRÆA DOUGLASII, *Hook. Flor. Bor.-Amer. 1, p.* 172; *Torr. & Gray, Flor. 1, p.* 415. McCumber's, N. California.

SPIRÆA BETULIFOLIA, *Pallas, Flor. Ross. t.* 16; *Torr. & Gray, Flor. 1, p.* 414; *Hook, Flor. Bor.-Amer. 1, p.* 172. Cascade mountains, O. T.

SPIRÆA OPULIFOLIA, *Linn.; Torr. & Gray, Flor. 1, p.* 413. Banks of Mpto-ly-as river, O. T.

SPIRÆA ARLEFOLIA, *Smith, in Rees. Cyclop.; Hook. Flor. Bor.-Amer. 1, p.* 173. Fort Vancouver and Cascade mountains, O. T.

RUBUS NUTKANUS, *Mocino; Hook. Flor. Bor.-Amer. 1, p.* 183; *Torr. & Gray, Flor. 1, p.* 450. McCumber's pass, N. California.

RUBUS MACROPETALUS, *Dougl. in Hook. Flor. Bor.-Amer. 1, p.* 78, *t.* 59; *Torr. & Gray, Flor. 1, p.* 457. Near San Francisco, California.

RUBUS PEDATUS, *Smith; Hook. Flor. Bor.-Amer. 1, p.* 181, *t.* 62; *Torr. & Gray, Flor. 1, p.* 452. On the coast above San Francisco, California.

RUBUS URSINUS, *Cham. & Schlecht, in Linnæa, 2, p.* 11. Petaluma.

RUBUS SPECTABILIS, *Pursh. Flor. 1, p.* 348, *t.* 16; *Hook. Flor. Bor.-Amer. 1, p.* 178. On the banks of the Columbia, and on the coast of Oregon generally.

COMARUM PALUSTRE, *Linn.; Fl. Dan. 636.* McCumber's, California, and Klamath basin.

POTENTILLA ANSERINA, *Linn. Sp.* 1, p. 495; *Torr. & Gray, Flor.* 1, p. 444. Shores of Klamath lake, O. T.

POTENTILLA FLABELLIFOLIA, *Hook.*; *Torr. & Gray, Flor.* p. 442. Cascade mountains, O. T.; altitude 6,000 feet.

POTENTILLA GRACILIS, var. FLABELLIFORMIS, *Torr. & Gray, Flor.* p. 440. McCumber's, N. California, and Klamath basin.

POTENTILLA RIGIDA, *Nutt. in Jour. Acad. Philad.* 7, p. 20. Banks of Hat creek, N. California.

POTENTILLA GLANDULOSA, *Lindl. Bot. Reg. t.* 1583; *Hook & Arn. Bot. Beech.*, p. 338. Banks of Hat creek, N. California.

#### IVESIA, Nov. Gen. (Torr. & Gray.)

“Calyx 5-fidus et 5-bracteolatus, tubo concavo vel campanulato. Petala 5, oblongo-cuneata vel obcordata, decidua. Stamina 20, bi-triseriata, tubo calycis, vel tantum 5 margini disci tenuis, inserta; filamenta filiformia vel subulato-filiformia, persistentia. Ovaria plura vel plurima, receptaculo conico villosa insidentia: ovulo pendulo: stylus infra-apicalis, gracilis, articulatione deciduus: stigma simplex. Achenia lævia. Radicula supera. Herbæ Horkeliæ facie, plurifoliolata, albi floræ, in sectionibus 2 disponendæ, nempe:—

“§ 1. HORKELIOIDES. Perennes, e caudice crasso confertissime multifoliolata; floribus congestis subsessilibus; calycis 5-fidi tubo campanulato vel turbinato; petalis spathulatis parvulis; acheniis lævibus paucis (ovariis 6–12?) Species duo: I. GORDONI, (Horkelia Gordoni, *Hook. Kew. Jour. Bot.* 5, p. 341, t. 12, H. ? multifoliolata, *Torr. in Sitgreaves, Zuñi Exped.* p. 159.) I. PICKERINGII, N. California; *Coll. Expl. Exped.*

“§ 2. POTENTILLOIDES. Annuæ, laxè plurifoliolata, laxifloræ, pedunculis ebracteatis; calyce concavo (bracteolis conformibus) subæqualiter fere 10-partito; acheniis plurimis grosse paucicostatis. Sp. 1, nempe:

“I. GRACILIS, (sp. nov.): gracilis, laxè villosa; foliis radicalibus 11–21-foliolatis; foliolis inferioribus 3–5-partitis breviter petiolulatis, summis plerumque alte bifidis subconfluentibus, segmentis lineari seu oblongo-spathulatis, caulinis parvis cum foliolis 5–9 subintegris; floribus parvis in cyma effusa sparsis; pedunculis ebracteatis filiformibus mox cernuis; petalis obcordatis calyce longioribus; stylis inferne vesiculoso-subincrassatis.—Banks of Rhett lake, one of the Klamath group. A foot high, producing many slender and nearly erect stems from a slender and evidently annual root. Leaflets thin, 3 to 6 lines long, irregular, often alternate, the lower ones rather sparse. Branches of the open cyme, as well as the peduncles, very slender; the latter fully an inch long. Flowers very small; the calyx, when spread out flat, only about 4 lines wide, flattish, and open like that of a *Potentilla*; the accessory lobes like the real sepals, only slightly smaller and blunter. Petals white, broad, deciduous. Stamens 20, in three ranks, five of them, viz: those opposite the true sepals inserted on the margin of a narrow and thin patelliform perigynous disk, (which is villous, like the receptacle it surrounds,) the others borne on the face of the calyx, the five opposite the petals inserted very close to the disk, but distinguishably separate from it; the remaining ten inserted higher up, just below the 10 sinuses, and answering to them, but in reality borne one on each side of the base of each interior or true division of the calyx; the persistent filaments slightly dilated at the base. Receptacle conical, hirsute. Ovaries indefinite, 30 or more, inserted by the inner angle just above the base; the style inserted a little below the rounded apex by a narrow base, above which it is more or less enlarged and glandular, or rather vesicular, and tapering gradually to



the apex, tipped with a simple stigma. Achenia pretty numerous, smooth, glabrous; when mature marked by a few thick and irregular longitudinal ribs; the style deciduous by an articulation. Seed suspended from near the summit.

“Although so well marked by the characters above cited, this plant and the two of the proposed first section evidently belong to the same genus, and that intermediate between *Horkelia* and *Potentilla*. The first section is more like *Horkelia*, from which the 20 stamens with filiform filaments (instead of 10 with broad or deltoid filaments) distinguish it. The second, except as to the foliage, resembles *Potentilla*, but is distinguished by its definite stamens in three ranks, &c. Dr. Torrey indicated the essential characters of this genus several years ago, but allowed the two species then known to him to be provisionally appended to *Horkelia*. Dr. Newberry's discovery, however, renders it necessary to complete the separation. The present name is chosen to commemorate one of the oldest surviving botanists of the United States, the venerable Dr. Eli Ives, formerly professor of materia medica and pharmacy in Yale College, who, although he has published little directly upon botany, has rendered excellent service as a teacher of the science to a long series of pupils.” *A. Gray.*

Plate XI. *IVESIA GRACILIS*. Plant of the natural size. Fig. 1. A flower. 2. A petal. 3. Section of receptacle, calyx, &c. 4. Flower spread out flat, to show the insertion and arrangement of the stamens; the ovarian receptacle cut wholly away. 5. A pistil. 6. The receptacle in fruit vertically divided. 7. A ripe achenium. 8. The same vertically divided. All the details more or less magnified.

*HORKELIA CUNEATA*, *Lindl.; Torr. & Gray, Fl. 1, p. 435.* Shores of Klamath lake.

*HORKELIA CONGESTA*, *Hook.; Torr. & Gr. Flor. 1, p. 434.* Banks of Hat creek, northern California.

*FRAGARIA CALIFORNICA*, *Cham. & Schlecht. in Linnaea, 2, p. 20; F. Chilensis, Torr. & Gray, Flor. 1, p. 448, in part.* Willamette valley.

*FRAGARIA CHILENSIS*, *Ehrh.; Torr. & Gray, Flor. 1, p. 448.* Portland, Oregon; November 1, in flower.

*ROSA FRAXINÆFOLIA*, *Borr.; Lindl. Bot. Reg., t. 458; Hook. Flor. Bor.-Amer. 1, p. 199.* Common in northern California and Oregon.

*PYRUS RIVULARIS*, *Dougl. in Hook. Flor. Bor.-Amer. 1, p. 203, t. 68; Torr. & Gray, Flor. 1, p. 471; Nutt. Sylv. 2, p. 22, t. 49.* Pit river, northern California.

*PYRUS AMERICANA*, *DC. Prod. 2, p. 637; Torr. & Gray, l. c.* Cascade mountains, O. T.

*CERASUS MOLLIS*, *Dougl. in Hook. Flor. Bor.-Amer. 1, p. 169.* On Pit river and in Cascade mountains.

*CERASUS DEMISSA*, *Nutt. in Torr. & Gray, Fl. 1, p. 411.* Common in mountains throughout northern California and Oregon.

*PRUNUS SUBCORDATA*, *Benth. Pl. Hartw. No. 1710.* Sierra Nevada, near Lassen's butte; Klamath lakes, August, in fruit; fruit large, excellent.

*AMELANCHIER CANADENSIS*, var. *ALNIFOLIA*, *Torr. & Gray, Flor. 1, p. 473.* *Amelanchier alnifolia*, *Nutt. Jour. Acad. Phil. 7, p. 22.*

*CHAMÆBATIA FOLIOLOSA*, *Benth. Plant., Hartweg. No. 1712; Torrey, Pl. Frémont, p. 11, t. 6.* Banks of Cancee creek, July 30, in flower; a very handsome plant, and well worth an effort for its cultivation.

#### CALYCANTHACEÆ.

*CALYCANTHUS OCCIDENTALIS*, *Hook. & Arn. Bot. Beech. p. 340, t. 84.* Sacramento valley.

## ONAGARACEÆ.

- CLARKIA ELEGANS, *Lindl.*; *Torr. & Gray, Flor. 1, p. 515.* McCumber's, N. California; July 29.
- EPILOBIUM ALPINUM, var. ALSINIFOLIUM, *Vill.*; *Torr. & Gray, Flor. 1, p. 489.* Crater pass, Cascade mountains, Oregon Territory.
- EPILOBIUM ANGUSTIFOLIUM, *Linn.* In pine woods, passim. Northern California and Oregon.
- EPILOBIUM PANICULATUM, *Nutt.*; *Torr. & Gray, Flor. 1, p. 490.* Sacramento valley, Columbia and Klamath basin, Oregon Territory; July and August.
- EPILOBIUM COLORATUM, *Muhl.* Banks of Canoe creek, northern California; July.
- ÆNOTHERA DENSIFLORA, *Lindl.* Banks of Pit river, California; July 30.
- ÆNOTHERA BIENNIS, var. CANESCENS, *Gray.* Banks of Canoe creek, northern California; August 2.
- ÆNOTHERA TRICHOICALYX, *Nutt.*; *Torr. & Gray, Flor. 1, p. 494.* Lost river, Klamath basin, Oregon Territory; August 4.
- ÆNOTHERA TANACETIFOLIA, *Torr. & Gray, in Beckwith's Railroad Report, p. 121, t. 4.* A variety with less dissected foliage. Shores of Rhett lake.

## GROSSULACEÆ.

- RIBES MENZIESII, *Pursh, Fl. 2, p. 732*; *Torr. & Gray, Fl. 1, p. 545.* San Francisco, California.
- RIBES DIVARICATUM, *Dougl. in Hort. Trans. 7, p. 515.* Hell valley, along streams.
- RIBES VISCOSSISSIMUM, *Pursh, Fl. 1, p. 163*; *Torr. & Gray, Fl. 1, p. 551.* Fruit blue. Cascade mountains. Forks of trees.
- RIBES SPECIOSUM, *Pursh, Fl. 2, p. 732*; *DC. Prod. 3, p. 478*; *Torr. & Gray, Flor. 1, p. 545.* Near San Francisco.
- RIBES GLUTINOSUM, *Benth. Hort. Trans. (new ser.) 1, p. 476.* San Francisco.
- RIBES LACUSTRE, *Poir.*; *Pursh, Fl. 1, p. 165.* Cascade mountains. Fruit black, racemed.
- RIBES SANGUINEUM, *Pursh, Flor. 1, p. 164.* Common in California and Oregon.

## CUCURBITACEÆ.

- MEGARRHIZA CALIFORNICA, *Torrey.* Petaluma and Sonoma, California; April, in flower.
- MEGARRHIZA OREGANA, *Torrey.* On the shores of Klamath lake and banks of Willamette river, O. T.; August and September, in fruit.

## CRASSULACEÆ.

- SEDUM STENOPETALUM, *Pursh, Flor. 1, p. 234*; *Torr. & Gray, Flor. 1, p. 560.* Cascade mountains.
- SEDUM SPATHULIFOLIUM, *Hook*; *Torr. & Gray, Flor. 1, p. 559.* Port Orford, O. T.
- ECHEVERIA LANCEOLATA, *Nutt. in Torr. & Gray, Flor. 1, p. 561.* Cascade mountains, O. T.

## SAXIFRAGACEÆ.

- TIARELLA UNIFOLIOLATA, *Hook. Flor. Bor.-Amer. 1, p. 238, t. 81.* Spruce forests, Cascade mountains, O. T.
- MITELLA PENTANDRA, *Hook. l. c. 1, p. 241.* With the last.

- HEUCHERA CYLINDRICA, *Dougl. ; Hook. 1, p. 236.* Cascade mountains, O. T.  
 SAXIFRAGA TOLMÆI, *Torr. & Gray, Flor. N. Amer. p. 567.* Crater pass, Cascade mountains, O. T.; altitude, 6,800 feet.  
 SAXIFRAGA PELTATA, *Torrey, Bot. Expl. Exped. ined.; Benth. Plant. Hartweg, No. 1740.*  
 SAXIFRAGA INTEGRIFOLIA, *Hook. Flor. Bor.-Amer. 1, p. 249, t. 86.* Shores of Klamath lake.

## UMBELLIFERÆ.

- CONIOSELINUM CANADENSE, *Torr. & Gray, Flor. N. Amer. 1, p. 619.* Crater Pass, Cascade mountains, O. T.  
 EDOSMIA GAIRDNERI, *Nutt.; Torr. & Gray, Flor. 1, p. 612.* Fort Reading and McCumber's, N. California.  
 SANICULA BIPINNATIFIDA, *Dougl. ; Hook. Flor. Bor.-Amer. 1, p. 358, t. 92.* Common throughout the Sacramento valley, California.  
 SANICULA LACINIATA, *Hook. & Arn. Bot. Beechey, Suppl. p. 347.* Petaluma, California.  
 ERYNGIUM ARTICULATUM, *Hook. Jour. Bot.* Common in northern California.  
 CYOPTERUS TEREBINTHINUS, *Nutt. ; Hook. Fl. Bor.-Am. 1, p. 266, t. 95.* Crater pass, Cascade mountains, O. T.  
 PEUCEDANUM TRITERNATUM, *Nutt.; Jour. Acad. Philad. 7, p. 27 ; Hook. Fl. Bor.-Am. 1, p. 204, t. 94.* Fort Reading, Cal.  
 PEUCEDANUM FENICULACEUM, *Nutt.; Torr. & Gray, Flor. 1, p. 627.* Crater pass, Cascade mountains.  
 PEUCEDANUM UTRICULATUM, *Nutt. ; Torr. & Gray, Flor. 1, p. 628.* San Francisco, California.  
 PEUCEDANUM CARU-FOLIUM, *Nutt. ; Torr. & Gray, Flor. 1, p. 628.* Shores of San Pablo bay, California.  
 OSMORRHIZA NUDA, *Torr. in Whipple's Report, ined.* Crater pass, Cascade mountains, Cal.  
 HYDROCOTYLE AMERICANA, *Linn ; Torr. & Gray, Flor. 1, p. 599.* San Francisco, Cal.

## CORNACEÆ.

- CORNUS NUTTALLII, *Nutt. Sylv. 3, p. 52 ; Torr. & Gray, Flor. 1, p. 652.* The fruit of this species is quite different from that of *C. florida*, the berries being so densely glomerated as to form a solid spherical capitulum, precisely as in the genus *Benthamia*, which is, therefore, scarcely distinguishable from *Cornus*, and will perhaps not stand.  
 CORNUS CANADENSIS, *Linn.; Torr. & Gray, Flor. 1, 652.* Cascade mountains, O. T.  
 CORNUS STOLONIFERA? *Michx.; Torr. & Gray, Flor. 1, 650.* Cascade mountains, O. T.  
 CORNUS PUBESCENS, *Nutt. Sylva 3, p. 54.* Cascade mountains, O. T.

## CAPRIFOLIACEÆ.

- LONICERA CERULEA, *Linn.; Torr. & Gray, Flor. 2, p. 9.* Des Chutes basin, O. T.; September 1.  
 LONICERA INVOLUCRATA, (*Herb. Banks, DC. Prodr. 4, p. 336 ; Torr. & Gray, Flor. 2, p. 9.*) Cascade mountains, O. T.  
 LONICERA CALIFORNICA, *Torr. & Gray, Flor. 2, p. 7.* San Antonio, Dr. Andrews.  
 LONICERA HISPIDULA, *Dougl. Mss. ; Torr. & Gray, Flor. 2, p. 8.* Placerville, California.  
 SAMBUCUS PUBENS, *Michx. ; Michx. Fl. 1, p. 181.* Cascade mountains, O. T.  
 SAMBUCUS MEXICANA, *Pres. in DC. Prodr. 4, p. 323 ; Gray, Pl. Wright. 2, p. 66.* Klamath basin and Cascade mountains, O. T.

SYMPHORICARPUS RACEMOSUS, *Michx. Fl.* 1, p. 107. Northern California and Cascade mountains, O. T.

LINNEA BOREALIS, *Gronov.; Linn. Sp. Pl.* p. 880; *Hook. & Arn. Bot. Beech. Voy.* 1, p. 125. Cascade mountains, O. T.

## RUBIACEÆ.

GALIUM APARINE, *Linn.; Pursh. Fl.* 1, p. 103; *Torr. & Gray, Flor.* 2, p. 20. Klamath lake and Dalles of Columbia.

GALIUM CALIFORNICUM, *Hook. & Arn. Bot. Beechey, Suppl.* p. 349. Petaluma; April, in flower.

GALIUM BOREALE, *Linn.; Hook. Flor. Bor.-Am.* 1, p. 289. Shores of Klamath lake, O. T.

GALIUM RUBIOIDES, *Linn. Spec.* 1, p. 105; *DC. Prod.* 4, p. 599; *Hook. & Arn. Bot. Beech. Voy.*, p. 115; *Hook. Flor. Bor.-Amer.* 1, p. 289. Cascade mountains, O. T.

GALIUM ASPRELLUM, *Michx. Fl.* 1, p. 78; *Pursh, Fl.* 1, p. 103; *Torrey, Fl.* 1, p. 166. Banks of Canoe creek, northern California; July 29.

CEPHALANTHUS OCCIDENTALIS, *Linn.; Michx. Fl.* 1, p. 87. Common in Sacramento valley.

## VALERIANACEÆ.

PLECTRITIS CONGESTA, *DC. Prod.* 4, p. 631. Shores of San Pablo and bay, California.

VALERIANA SYLVATICA, *Banks; Hook. Flor. Bor.-Am.* 1, p. 291. Crater pass, Cascade mountains, O. T.

## COMPOSITÆ.—(By A. GRAY.)

EUPATORIUM OCCIDENTALE, *Hook. Fl. Bor. Am.* 1, p. 305; *Torr. & Gray, Fl.* 1, p. 91. On rocks, Canoe creek, northern California; a low shrubby plant.

LESSINGIA GERMANORUM, *Cham.; Torr. & Gray, l. c.* 2, p. 451. Upper Sacramento valley.

LESSINGIA VIRGATA, *Gray, in Pl. Hartw.* p. 315; McCumber's. This very remarkable species was known only by a specimen in the collection of the United States Pacific Exploring Expedition, with which Dr. Newberry's plant well accords.

ASTER SALSUGINOSUS, *Richards.; Torr. & Gray, Fl.* 2, p. 155. Crater pass.

ASTER ADSCENDENS, *Lindl. in Hook. l. c. & DC. Prodr.* 5, p. 231.

ASTER NOVI BELGII, *Linn.* Upper Des Chutes; also a dwarf state at the Dalles.

ASTER SIMPLEX, *Willd.? Torr. & Gray, l. c.* Upper Des Chutes river.

ASTER FALCATUS, *Lindl.; Torr. & Gray, l. c.* Klamath lake.

ERIGERON FILIFOLIUM, *Nutt.; Torr. & Gray, Fl.* 2, p. 177. Cascade mountains, Oregon; flowers white and pink.

ERIGERON DOUGLASSII, *Torr. & Gray, l. c.*; var. *foliis latioribus, capitulis (immaturis) minoribus*. Apparently the *E. foliosum* of Nuttall. McCumber's, Upper Sacramento.

ERIGERON CANADENSE, *Linn.* Common in California and Oregon.

HULSEA NANA, (sp. nov.): *humilis; foliis pinnatifidis; pedunculo scapiformi monocephalo; involucri squamis oblongo-lanceolatis subacutis; floribus luteis; pappi paleis fimbriato-laceris.*—(Tab. XII.) In beds of scoria, at the line of perpetual snow, Crater pass, Cascade mountains, lat. 44° 10', September. This is one of the most interesting plants of Dr. Newberry's collection, and I have great pleasure in proposing that the species shall bear his name. It opportunely confirms a genus, still unpublished, (but likely soon to be given to the world,) which I characterized two years ago in manuscript, and which was founded on a single specimen of a stem or peduncle, destitute of foliage, but bearing several heads. The floral characters



forbid us to refer it to any known genus, and it was, therefore, dedicated to Dr. G. W. Hulse, of Louisiana, a zealous cultivator of botany, who gathered it in the mountains of the southern part of California, back of San Diego, and sent the specimen to his friend and correspondent, Dr. Torrey. The characters of the genus, and the distinctive marks (so far as known) of the original species, are here appended. The present plant is only three or four inches high, excluding the slender shoot or root-stock, which rises through the loose scoria in which it grows.

*HULSEA*, Torr. & Gray, in *Bot. Mex. Bound. Surv. ined.* Capitulum multiflorum, radiatum; floribus radii ligulatis fœmineis, disci tubulosis. Involucrum hæmisphericum; squamis subtriseriatis membranaceis laxis, exterioribus paulo brevioribus. Receptaculum planum epaleaceum, alveolato-dentatum; dentibus brevibus corneis. Ligulæ 20-30, lineares. Corollæ fl. hermaph. tubo gracili viscoso-glanduloso, fauce cylindracea, limbo 5-dentato, dentibus triangulari-ovatis fere glabris. Antheræ ecaudatæ. Styli rami obtusi, longitrorsum puberuli, exappendiculati. Achenia conformia, linearia, subtetragono-compressa, deorsum attenuata, villosa præsertim ad margines. Pappus (villis achenii vix longior) e paleis 4 tenuibus hyalinis enerviis latis obtusissimis erosis vel fimbriatis. Herbæ perennes, viscoso-pubescentes, macrocephalæ, alternifoliæ; caule florifero subaphyllo; floribus flavis.

1. *H. CALIFORNICA*: elata; caule vel pedunculo 3-7 cephalo; involucri squamis linearibus apice attenuatis; floribus aureis; pappi paleis cuneato-rotundis apice truncato eroso-denticulatis.

2. *H. NANA*: Vide supra.

Plate XII, *HULSEA NANA*. Plant of the natural size. Fig. 1, a ray flower; 2, a disk flower; 3, corolla of the last laid open, the stamens, &c., displayed; 4, some of the glandular hairs on the corolla; 5, branches of the style of the disk flowers; 6, paleæ of the pappus; 7, section of a mature achenium; 8, the receptacle. The details variously magnified.

*COREOPSIS ATKINSONIANA*, Dougl. *Bot. Reg. t.* 1376. Rocks on the Oregon river.

*GAILLARDIA ARISTATA*, Pursh, *Fl.* 2, p. 573. Fort Dalles, Oregon river.

*CHEENACTIS DOUGLASII*, Hook. & Arn. *Bot. Beech. p.* 354, (to which *C. achilleæfolia* is to be joined.) Klamath lake. Flowers white.

*BAHIA LEUCOPHYLLA*, DC. *Prodr.* 5, p. 656. McCumber's, Upper Sacramento valley.

*BAHIA LANATA*, Nutt.; DC. *l. c.* & var. *TENUIFOLIA*. With the last, &c.

*BURRIELIA TENERRIMA*, DC. *Prodr.* 5, p. 663. Sonoma.

*DICHELETA ULIGINOSA*, Nutt. in *Trans. Amer. Phil. Soc.* 7, p. 383. With the last.

*HELENIUM AUTUMNALE*, Linn. var. *GRANDIFLORUM*, Torr. & Gray. Klamath lake and Willamette river.

*SOLIDAGO GIGANTEA*, Ait.; Hook. *Flor. Bor.-Am.* 2, p. 2. Banks of Columbia river, O. T.

*SOLIDAGO CONFERTIFLORA*, Nutt.; Hook. *Flor. Bor.-Am.* 2, p. 4. Klamath basin, O. T.

*SOLIDAGO ELONGATA*, Nutt. var. McCumber's, Upper Sacramento.

*LINGSYRIS GRAVEOLENS*, Torr. & Gray, *Fl.* 2, p. 234. Banks of upper Pit river.

*CHRYSOPSIS VILLOSA*, Nutt. *Gen.* 2, p. 150. Cascade mountains; a small form.

*BLENNOSPERMA CALIFORNICUM*, Torr. & Gray, *Fl.* 2, p. 272. Sacramento valley.

*WYETHIA HELENIODES*, Gray, *Pl. Feull. p.* 82, *adn.*; var. *capitulum multum minore*. Near McCumber's, on the upper Sacramento. The foliage and aspect accord with *W. helenioides*, but the head is only one-quarter the size. The single one gathered, however, is from an axillary shoot, the terminal one being destroyed or lost, and it is not in a condition to permit an

examination of the flowers. The plant may, therefore, for the present, remain appended to *W. helenioides*.

*WYETHIA ROBUSTA*, *Nutt. in Trans. Amer. Phil. Soc.* 7, p. 351; *Torr. & Gray, Fl.* 2, p. 299, *excl. syn.* With the last. Radical leaves lanceolate, a foot long. Not well named, as the stems are quite slender next the ground. They bear, in a crowded manner, many alternate and pinnatifid leaves of oblong or spatulate outline, tapering into a margined petiole. The leaves, including the petiole, are one or two inches long; their lobes one to three lines long, oblong, obtuse, entire or obtusely toothed. Like the rest of the plant, they are viscid or glandular-pubescent. A solitary peduncle,  $1\frac{1}{2}$  inch long, bears a single head, which is nearly an inch in diameter. Involucre purplish; the outer scales broadly oblong-lanceolate; the inner lanceolate. Rays small, linear, about 20 in number, apparently light yellow, half an inch long. Its tube and the lower part of the disk-corollas beset with glandular hairs. Achenia 3 to 4 lines long, flat, blackish, softly and very villous, except perhaps towards the base; the hairs at the summit as long as the diaphanous paleæ of the pappus.

*OXYURA CHRYSANTHEMIOIDES*, *DC. Prodr.* 5, p. 693. Petaluma, California.

*LAYIA CALLIGLOSSA*, *Gray, Pl. Fendl.* p. 103; var.? *OLIGOCHÆTA*; pappi aristis 2-3. Petaluma, California.

*MADARIA ELEGANS*, *DC. Prodr.* 5, p. 692. McCumber's.

*LAGOPHYLLA FILIPES*, *Gray, in Mex. Bound. Surv.* *Hemizonia filipes*, *Hook. & Arn. Bot. Beech.* p. 356. With the last, in flower only. Fruiting specimens of this are still a desideratum.

*ACHILLEA MILLEFOLIUM*, *L.* McCumber's, shores of Klamath lake, &c.

*MATRICARIA DISCOIDEA*, *DC. Prodr.* 6, p. 51. Petaluma.

*ARTEMISIA TRIDENTATA*, *Nutt.* Columbia river.

*ARTEMISIA LUDOVICIANA*, *Nutt.*; var. *GNAPHALIOIDES*, *Torr. & Gray, Fl.* 2, p. 420. Pit river.

*ARTEMISIA DRACUNCULOIDES*, *Pursh.* Des Chutes basin.

*GNAPHALIUM LUTEO-ALBUM*, *Linn.* (*G. Sprengelii*, *Hook. & Arn.*, in part.) Sonoma.

*GNAPHALIUM PALUSTRE*, *Nutt.*; *Torr. & Gray, Fl.* 2, p. 427. Canoe creek.

*GNAPHALIUM PURPUREUM*, *L.* Petaluma.

*ANTENNARIA GEYERI*, *Gray, Pl. Fendl. adn.* p. 107. McCumber's. These are fine specimens of the male plant of this rare species, which Sir William Hooker confounded with a South American *Gnaphalium*, (*G. alienum*, *Hook. & Arn.*) But it is a true *Antennaria*.

*ANTENNARIA LUZULOIDES*, *Torr. & Gray, Fl.* 2, p. 431. Hat creek and McCumber's, N. Cal.

*ANTENNARIA MARGARITACEA*, *R. Br.* Lakes south of Crater pass, Cascade mountains, O. T.; August.

*SENECIO TRIANGULARIS*, *Hook. Fl. Bor.-Amer.* 1, p. 322, t. 115. Upper Des Chutes river, near the edge of the water; September.

*ARNICA CHAMISSONIS*, *Less.*; *Torr. & Gray, Fl.* 2, p. 449. A narrow-leaved state; shores of Klamath lake, O. T.

*ARNICA MOLLIS*, *Hook.*; *Torr. & Gray, l. c.* Crater pass, near the snow line. A state with narrower leaves than usual, and tapering to the base.

*TETRADYMIA CANESCENS*, *DC. Prodr.* 6, p. 440. Fort Reading, Cal. The leaves are only a little shorter than in Douglas' plant, and the flowering branches (which are herbaceous from a shrubby base) are nearly as slender.

*STEPHANOMERIA MINOR*, *Nutt.*; *Torr. & Gray, Fl.* 2, p. 472. Hat creek and Pit river, Cal.

*STEPHANOMERIA VIRGATA*, *Benth. Bot. Sulph.* p. 32. A much larger flowered variety, but

specimens gathered by Frémont approach it. The admitted species are probably too numerous already. McCumber's, N. Cal.

*MACRORHYNCHUS LACINIATUS*, Torr. & Gray, *l. c.* Crater pass.

*MACRORHYNCHUS LESSINGII*, Hook. & Arn.? McCumber's and Canoe creek, N. Cal.

*MULGEDIUM PULCHELLUM*, Nutt.; Torr. & Gray, *l. c.* p. 497. Bartee's valley, N. Cal.

*XANTHIUM STRUMARIUM*, Linn.; DC. *Prodr.* 5, p. 523. Common throughout N. California and Oregon.

*LEUCANTHEMUM VULGARE*, Lam. Fort Vancouver, W. T. (Introduced.)

*HEMIZONIA PUNGENS*, Torr. & Gray, *Fl.* 2, p. 399. Sacramento valley, Cal.

*HEMIZONIA MACRADENIA*, DC.; Torr. & Gray, *l. c.* Fort Reading, Cal.

*MARUTA COTULA*, DC. Marysville, California.

*BIDENS CHRYSANTHEMOIDES*, Michx.; Pursh. *Fl.* 2, p. 566. San Francisco and Sacramento valley, Cal.

#### CAMPANULACEÆ.

*SPECULARIA PERFOLIATA*, A. DC. Fort Vancouver, W. T.

*DOWNINGIA ELEGANS*, Torr. in Whipple's Report, (*ined.*) Bartee's valley, N. Cal.; August.

*GITHOPSIS CALYCINA*, Benth. *Plant. Hartweg.* p. 321. Fort Reading, Cal.

*CAMPANTULA SCOULERI*, Hook. *Flor. Bor.-Amer.* 2, p. 28, t. 125. A small form, Cascade mountains, O. T.; larger form, McCumber's, N. Cal.

#### ERICACEÆ.

*ARCTOSTAPHYLOS TOMENTOSA*, Dougl. in Lind. *Bot. Reg. Hook. Flor. Bor.-Amer.* 2, p. 37, t. 130. Cascade mountains, O. T., latitude 44°.

*ARCTOSTAPHYLOS GLAUCA*, Lindl. *Bot. Reg.* t. 1791, *Xerobotrys glaucus*, Nutt. *Trans. Am. Philos. Soc.* Common throughout northern California and southern Oregon.

*ARCTOSTAPHYLOS UVA-URSI*, Spreng., Pursh *Fl.* 1, p. 283. Pine woods, N. California and Cascade mountains.

*ARBUTUS MENZIESII*, Pursh *Flor.* 1, p. 282. N. California, Cascade mountains and Willamette valley, O. T.

*AZALEA CALIFORNICA*, Torr. & Gray. *A. calendulacea*, Hook. & Arn. *Bot. Beech.* p. 362. Fort Reading, N. California.

*MENZIESEA EMPETRIFORMIS*, Smith; Hook. *Flor. Bor.-Amer.* 2, p. 40. Crater pass, Cascade mountains; altitude 6,000—7,000 feet.

*GAULTHERIA SHALLON*, Pursh; Hook. *Flor. Bor.-Amer.* p. 2, 36. Cascade mountains and Coast Range, Willamette valley, O. T.

*GAULTHERIA MYRSINITES*, Hook. *Flor. Bor.-Amer.* 2, p. 35, t. 129. Cascade mountains, O. T.; altitude 6,000 feet.

*KALMIA GLAUCA*, Ait.; Hook. *Flor. Bor.-Amer.* 2, p. 41. Crater pass, Cascade mountains; altitude 6,000 feet. Sphagnous marshes, mouth of the Columbia; September 6.

*RHODODENDRON ALBIFLORUM*, Hook. *Flor. Bor.-Amer.* 2, p. 43, t. 133. Cascade mountains, O. T.; latitude 44°.

*RHODODENDRON MAXIMUM?* Hook. *Flor. Bor.-Amer.* 2, p. 42. Spruce forests, Cascade and Coast mountains.

*VACCINIUM MACROCARPUM*, Ait.; Hook. *Flor. Bor.-Am.* 2, p. 34. Marshes; mouth of Columbia river, O. T.

- VACCINIUM PARVIFOLIUM, *Smith; Hook. Bor.-Am. 2, p. 33, t. 128.* Cascade mountains, O. T.
- VACCINIUM OXYCOCCUS, *Linn.; Hook. Flor. Bor.-Am. 2, p. 34.* Sphagnous marshes, Cascade mountains, O. T.
- VACCINIUM OVALIFOLIUM, *Smith; Hook. Flor. Bor.-Am. 2, p. 32, t. 127.* Cascade mountains, O. T.
- VACCINIUM MYRTILLOIDES, *Michx.; Hook. Flor. Bor.-Am. 2, p. 32.* Cascade mountains, O. T.
- VACCINIUM OVATUM, *Pursh; Hook. Flor. Bor.-Am. 2, p. 33.* Cascade mountains, O. T.
- VACCINIUM CÆSPITOSUM? *Michx.; Hook. Flor. Bor.-Am. 2, p. 33, t. 126.* Cascade mountains.
- CHIMAPHILLA UMBELLATA, *Pursh; Hook. Flor. Bor.-Am. 2, p. 49.* N. California and Cascade mountains, O. T.
- PYROLA APHYLLA, *Smith; Hook. Flor. Bor.-Am. 2, p. 48, t. 137.* Pine forests, N. California, and Cascade mountains, O. T.
- PYROLA ROTUNDIFOLIA, *Linn.; Hook. Flor. Bor.-Am. 2, p. 46.* McCumber's, N. California.
- PYROLA DENTATA, *Smith; Hook. Fl. Bor.-Am. 2, p. 46, t. 136.* var. INTEGRIFOLIA, Cascade mountains, O. T.
- PYROLA MINOR, *Linn.; Hook. Flor. Bor.-Am. 2, p. 45.* Crater Pass, Cascade mountains; altitude 6,500 feet.
- PTEROSPORA ANDROMEDEA, *Nutt.; Hook. Flor. Bor.-Am. 2, p. 48.* Pine woods throughout N. California and Oregon.
- CASSIOPE TETRAGONA, *Don. in DC. Prod. 7, p. 611.* *Andromeda tetragona, Linn. Flor. Dan. t. 1030; Pursh. Flor. p. 290; Hook. Bot. Mag. t. 3181; Flor. Bor.-Amer. 2, p. 58.* Crater pass, Cascade mountains.

HEMITOMES, nov. gen. MONOTROPEARUM. (By A. GRAY.)

Calyx disepalus, bracteoliformis. Corolla tubuloso-urceolata, 4-5-loba, post anthesin marcescens, lobis patentibus intus villosulis. Stamina hypogyna, 8 vel 10: filamenta filiformia, superne barbata: antheræ basifixæ, glandula parva apiculata, dimidiatim unilocularis; nempe, loculo fertili oblongo-lineari longitrorsum dehiscente, altero ad costam billamellatam reducto. Discus nullus. Ovarium ovoideum, pseudo-quinqueloculare, nempe placentæ 4 bilamellatæ videntur, divaricatæ, et inter se coalitæ circum locellum centralem, extus intusque creberrime ovuliferæ. Stylus elongatus: stigma depressocapitatum, integerrimum, umbilicatum, pervium. Fructus ut videtur carnosus evalvis.—Rhizophyllum brunneum, carnosum; caule simplicis squamato; floribus sessilibus in capitulum terminale congestis bracteatis.

HEMITOMES CONGESTUM. (Plate XIII.) Upper Des Chutes valley; September.

The addition of a new genus to the small order or sub-order *Monotropeæ*, is a matter of no small interest; and this, founded on a fragmentary, but yet an adequate specimen, is the third which has come to our knowledge from the Pacific border of the United States.\* The plant has much the aspect of a *Monotropa* of the section *Hypopitys*; but is remarkable for bearing its flowers in a dense, terminal, nearly hemispherical head. Each flower is subtended by a scaly bract, nearly like the scales of the stem, and about as long as the corolla. The outer flowers appear to be all tetramerous and octandrous, like the lower ones of *Hypopitys*, but some of the inner ones have a 5-lobed corolla, and, I believe, 10 stamens. A pair of narrowly-linear persistent lateral bractlets represent the calyx. The scarious-membranaceous corolla is urceolate-

\* Namely, *Sarcodes* of Torrey, (which is admirably illustrated in the *Plantæ Frémontianæ*, p. 17, plate 10, and which was near the same time published in California by Dr. Kellogg, under the name of *Pterosporopsis*,) and *Allotropa*, the single known species of which *Allotropa virgata*, Torr. & Gray, ined. was gathered on the Cascade mountains of northern Oregon, by Dr.



tubular in the flowers inspected, which are all much passed anthesis; it is probably more tubular at first, but is afterwards swollen out below by the enlargement of the gravid ovary. The aestivation could not be made out. The greatest peculiarity of the plant is found in the anthers, which are one-celled through obliteration; the missing cell being reduced to a narrow longitudinal ridge, almost continuous with the filament. This ridge is bipartite, if not splitting spontaneously, into two narrow lamellae, in a manner answering well to the normally longitudinal dehiscence of the fertile cell. It may possibly even contain a few grains of pollen, but probably none.

This remarkable semi-castration has suggested the generic name.\* In the total absence of a disk, and in the elongated style, our plant accords with *Sarcodes*. The pervious stigma and style and the imperfect calyx are points which connect it more closely with *Monotropa*, of which it has the general aspect. There are indications that the fruit is baccate. It is difficult to make out the structure of the ovary clearly, nor is there much material to be sacrificed in the endeavor. I think, however, that our analysis is not far wrong. If correct, we have a curious anomaly in the ovary of the present plant, namely: besides the four (or in some cases five?) normal cells, there is an axile cell equally and profusely ovuliferous throughout, and reminding one of the ovary of *Obolaria* (Chloris, Bor.-Amer. p. 21, t. 3) and of *Bartonia*, (Man. Bot. Northern United States, ed. 2, p. 347.) As will be seen from the framing of the generic character, I take this to be of the same nature as the central cavity in the ovary of *Martynia*. I trust further specimens may duly come to hand, and confirm or correct this view of the structure of the ovary.

Plate XIII. HEMITOMES CONGESTUM.—The plant of the natural size. Fig. 1. Side view of a flower and its bract. 2. Front view of a flower. 3. Stamens and pistil. 4. A detached stamen, the anther seen laterally. 5. Anther seen posteriorly; the ridge representing the aborted cell towards the eye. 6. Same seen laterally, and divided transversely. 7. Pollen. 8. Transverse slice of an ovary. 9. Vertical section through the whole pistil.

SARCODES SANGUINEA, *Torrey, Plant. Frémont, in Smith. Contrib.* 6, p. 18, t. 10. In pine forest, base of Lassen's butte, northern California.

#### SCROPHULARIACEÆ.—(By A. GRAY.)

PENTSTEMON SPECIOSUS, *Dougl.; Hook. Flor. Bor. Am.* 2, p. 98. Banks of Canoe creek, N. Cal.; shores of Klamath lake.

Pickering and Mr. Brackenridge, in the South-Sea Exploring Expedition under Commodore Wilkes; and, finally, the present discovery of Dr. Newberry. The six genera now known may be disposed synoptically in this way:

##### § 1. *Corolla monopetala.*

##### ◦ *Antheræ biloculares:*

##### 1. *Longitrorum deliscentes, dorso biaristatæ.*

1. PTEROSPORA, *Nutt.* Corolla ovata, 5-dentata. Semina apice alata.

##### 2. *Apice foraminibus deliscentes, muticæ. Corollæ campanulatæ 5-lobæ.*

2. SARCODES, *Torr.* Discus nullus. Antheræ elongatæ: filamenta brevina. Stylus elongatus.

3. SCHWEINITZIA, *Ell.* Discus 10-dentatus. Antheræ brevissimæ. Filamenta brevina. Stylus brevis crassus.

##### ◦◦ *Antheræ abortu uniloculares. Calyx imperfectus, bractæformis.*

4. HEMITOMES, *Gray:* Vide, supra.

##### § 2. *Corollæ 4-5-petalæ. Calyx imperfectus.*

5. ALLOTROPA, *Torr. & Gray.* Petalæ orbiculatæ, basi haud gibbosæ. Discus nullus. Antheræ ovatæ, biloculares, longitrorum deliscentes. Stylus nullus.

6. MONOTROPA, *Linn.* Petalæ cuneatæ vel spatulatæ, basi gibbosæ vel saccatæ. Discus e dentibus 8-10 deliscentibus. Antheræ reniformes, confluentim uniloculares, transversim deliscentes. Stylus columnaris.

◦ Viz: *ἡμι-ευνουχίς*, a half-eunuch.

PENTSTEMON MENZIESII, *Benth.*; *Pl. Hartw.*, p. 327. On rocks, Cascade mountains, O. T.

PENTSTEMON PROCEPUS, *Dougl.*; *Hook. Flor. Bor. Am.* 2, p. 96. McCumber's, N. Cal., and Klamath basin.

PENTSTEMON HETEROPHYLLUS, *Lind. Bot. Reg. t.* 1899. Sides of Lassen's butte, N. Cal., July.

PENTSTEMON GLAUCIFOLIUS (sp. nov.): glaberrimus, glaucus; caule confertim folioso basi ramoso (1-2 pedali); foliis crassiusculis integerrimis acutatissimis lanceolatis oblongisve in petiolem brevem attenuatis, cæteris semi-amplexicaulibus plerumque cordato-ovatis vel e basi sub-cordata ovato-lanceolatis; panicula virgata multiflora; pedunculis folia floralia superantibus folioso-bibracteatis 1-3-floris; calycis segmentis ovatis subacuminatis; corolla azurea sesquipolicari sursum ampliata; filamentum sterili apice dilatato hirtello.

Fort Reading, on the Sacramento river, California. Cauline leaves 1-1½ inches long, about ½ inch wide at the clasping base, tapering to the acute apex; the floral similar, gradually decreasing in size; bractlets also foliaceous. Anthers hispid-ciliate, also hirsute at the insertion. Calyx nearly as in the broader-sepalled form of *P. heterophyllus*. A most elegant and showy species, which I should have referred to Bentham's *P. azureus* from his character, except that the sterile filament is not glabrous, and in my specimen of Hartweg's, No. 1879, the leaves are all rather narrowly lanceolate: indeed I cannot distinguish that plant from *P. heterophyllus*. It is possible that Mr. Bentham had the two plants, and drew the characters of the foliage from our present plant, and of the sterile filament from the allied *P. heterophyllus*. If the sparing beard of the sterile filament cannot be relied upon, and the two run together, then the variable species well deserves the name of *heterophyllus*.

PENTSTEMON GRACILENTUS (sp. nov.): glaber; caule tenero subpedali adscendente; foliis integerrimis inferioribus oblongo-lanceolatis in petiolum longiusculum attenuatis, superioribus paucis angusto-linearibus sessilibus, floralibus lineari-setaceis; panicula laxa subsimplici; cymis pedunculatis 3-5-floris; calycibus pedicellisque æquelongis pubero-glandulosis, segmentis oblongo-lanceolatis breviter acuminatis; corolla tubuloso-infundibuliformi subbilabiata cœrulea staminibusque glaberrimis; filamentum sterili filiformi superne obsolete barbato.

At the base of Lassen's butte, N. California. Lower leaves about two inches long, and with a petiole about one inch long; the upper few, and gradually reduced to slender bracts; corolla slender, half an inch long; anthers intermediate in structure between those of the sections *Eupentstemon* and *Saccanthera*, glabrous, except a minute denticulate ciliation at the line of dehiscence.

PENTSTEMON NEWBERRYI (sp. nov.): fruticosus, glaber, cæspitoso-procumbens; foliis ovalibus seu ovato-oblongis sub-coriaceis crebre serrulatis, caulinis obtusis basi in petiolum contractis summis sessilibus acutis; racemo 7-11-floro; calycis segmentis lanceolatis sensim acuminatis pedicellum æquantibus; corolla punicea tubulosa belabiata, labio inferiore patente trifido intus lineis 2 barbato; staminibus sub-exsertis; antheris (praesertim ad margines) lanatis; filamentum sterili brevi filiformi longitudinaliter parce barbato. (Plate XIV.) On rocks, forming broad tufts near Mount St. Joseph's, N. California. A well marked species of the section *Elmigera*, but with woolly anthers. Leaves turning blackish in drying. Corolla deep crimson, very handsome, 1¼ inches long.

Plate XIV. PENTSTEMON NEWBERRYI. A flowering stem of the natural size. Fig. 1. Corolla laid open, with the stamens. 2. A separate stamen. 3. Pistil and calyx, the ovary vertically divided. The analyses enlarged.

CHELONE NEMOROSA, *Dougl.; Hook. Flor. Bor.-Am. 2, p. 95.* On rocks, Cascade mountains, latitude 44° 30'; altitude 6,500 feet.

VERONICA AMERICANA, *Schwein. in DC. Prodr.* Canoe creek, N. California.

VERONICA PEREGRINA, *Linn.; Hook. Flor. Bor.-Am. 2, p. 101.* N. California.

SCROPHULARIA NODOSA, *Michx.; Hook. Bor.-Am. 2, p. 94.* Throughout California and Oregon.

MIMULUS MOSCHATUS, *Dougl. Bot. Reg. t. 1118.* McCumber's, N. California.

MIMULUS LEWISII, *Pursh.; Hook. Flor. Bor.-Am. 2, p. 100.* Crater pass, Cascade mountains; altitude 6,700 feet. Corolla crimson.

MIMULUS SCOULEI, *Hook. Flor. Bor.-Am. 2, p. 100.* Very common in N. California.

MIMULUS CARDINALIS, *Dougl.; Benth. DC. Prodr. 10, p. 370.* Fort Reading, California.

MIMULUS PRIMULOIDES, *Benth.; Hook. Flor. Bor.-Am. 2, p. 100.* Shores of Klamath lake, Oregon Territory.

COLLINSIA BARTSLEFOLIA, *Benth. in DC. Prodr. 10, p. 318.* Fort Reading, N. California.

LINARIA CANADENSIS, *Spreng.; Hook. Flor. Bor.-Am. 2, p. 94.* Petaluma, California.

EUNANUS FREMONTI, *Benth.; DC. Prodr. 10, p. 374.* McCumber's, N. California; July 29.

EUNANUS DOUGLASII, *Benth.; DC. Prodr. 10, p. 374.* Fort Reading, California.

CORDYLANTHUS RACEMOSUS, *Nutt.* McCumber's, N. California.

CORDYLANTHUS FILIFOLIUS, *Nutt.* Sacramento valley, California.

ORTHOCARPUS CASTILLEJOIDES, *Benth. in DC. Prodr. 10 p. 536.* McCumber's, N. California.

ORTHOCARPUS PURPURASCENS, *Benth. in DC. Prodr. 10, p. 536.* Fort Reading, California.

ORTHOCARPUS ERIANTHUS, *Benth. in DC. Prodr.* Petaluma, California.

PEDICULARIS ATTENUATUS, *Benth. in Hook. Flor. Bor.-Am. 2, p. 110.* Petaluma, California.

PEDICULARIS RACEMOSUS, *Dougl.; Hook. Flor. Bor.-Am. 2, p. 108.* Passes of Cascade mountains, O. T.; latitude, 44°; altitude, 6,800 feet. Var.  $\beta$ ., whole plant very delicate.

CASTILLEJA PALLIDA, *Benth.; Hook. Flor. Bor.-Am. 2, p. 105.* McCumber's, N. Cal.; July 29.

CASTILLEJA MINIATA, *Benth.; Hook. Flor. Bor.-Am. 2, p. 106.* Crater pass, Cascade mountains.

CASTILLEJA AFFINIS, *Hook. & Arn. Bot. Beech. p. 154.* Banks of Canoe creek, Cal.; July 30.

CASTILLEJA DOUGLASII, *Benth. l. c.* McCumber's, N. Cal.

CASTILLEJA HISPIDA, *Benth. in Hook. Flor. Bor. Am. 2, p. 105.* Fort Reading, Cal.

#### VERBENACEÆ.

VERBENA HASTATA, *Linn.* Common throughout northern California.

VERBENA BRACTEOSA, *Michx.; Hook. Flor. Bor.-Am. 2, p. 14; DC. Prod. 11, p. 549.* Fort Dalles, O. T.

#### LABIATEÆ.

MONARDELLA CANDICANS, *Benth. Pl. Hartweg, No. 1911.* Sacramento valley, Coast Range, and McCumber's, N. Cal.

MONARDELLA SHELTONI, *Torrey.* McCumber's, N. California.

TRICHOSTEMA OBLONGUM, *Benth., ined. Hook. Flor. Bor.-Am. 2, p. 117.* Upper Pit river, Cal. Plant very fragrant.

STACHYS PALUSTRIS, *Linn.; Hook. Flor. Bor.-Am. 2, p. 116.* McCumber's, N. Cal.

STACHYS CILIATA, *Dougl.; Hook. Flor. Bor.-Am. 2, p. 116.* Cascade mountains, O. T.

SCUTELLARIA ANTIRRHINOIDES, *Benth.; DC. Prod.* Shores of Klamath lake, O. T.

SCUTELLARIA GALERICULATA, *Linn.* Shores of Klamath lake, O. T.

SCUTELLARIA TUBEROSA, *Benth. Lab. p. 313.* Shores of San Pablo bay, California.

MICROMERIA DOUGLASSII, *Benth. in DC. Prodr.* 12, p. 223. Cascade mountains, O. T.

MENTHA CANADENSIS, *Linn.* McCumber's, N. Cal.

PRUNELLA VULGARIS, *Linn.* Common from San Francisco to the Columbia river.

#### PLANTAGINACEÆ.

PLANTAGO MAJOR, *Linn.* Fort Vancouver, W. T. (Introduced.)

PLANTAGO PATAGONICA, *Jacq.*; var. GNAPHALIOIDES, *Gray.* P. Gnaphalioides, *Nutt. Gen.* 1, p. 100. Whole plant very woolly. Dalles of the Columbia, O. T.

#### PRIMULACEÆ.

DODECATEON MEADIA, *Linn.*, var. D. FRIGIDUM, *Cham.*; *Hook. Flor. Bor.-Amer.* 2, p. 118. Sacramento valley; Fort Reading, Cal.; Cascade mountains, O. T.

TRIENTALIS LATIFOLIA, *Hook. Flor. Bor.-Am.* 2, p. 121. Cascade mountains, O. T.

ANAGALLIS ARVENSIS, *Linn.* San Francisco, Cal. (Introduced.)

#### LENTIBULACEÆ.

UTRICULARIA VULGARIS, *Linn.* Klamath lake, O. T.

#### OROBANCHACEÆ.

PHELIPÆA COMOSA, *Gray, ined.* OROBANCHE COMOSA, *Hook. Fl. Bor.-Am.* 2, t. 169. Banks of Canoe creek.

APHYLLON UNIFLORUM, *Torr.* *Gray; Gray, Bot. North. U. S.*, p. 290. Near San Francisco, California.

#### BORAGINACEÆ.—(By JOHN TORREY.)

ERITRICHUM SCOULERI, *Alph. DC. Prodr.* 10, p. 130. In fine fruit. McCumber's and Klamath lake.

ERITRICHUM FULVUM, *Alph. DC. l. c.* Fort Reading, Oregon, April. In flower.

PLAGIOBOTHRYIS CANESCENS, *Benth. Pl. Hartw.* p. 324.? Differs from Hartweg's plant, in the corolla being twice as long as the calyx. Fort Reading.

ERITRICHUM CALIFORNICUM, *Alph. DC. l. c.* No locality recorded.

CYNOGLOSSUM GRANDE, *Dougl.; Hook, Fl. Bor.-Am.* 2, p. 85. McCumber's and Fort Reading.

AMSINCKIA SPECTABILIS, *Fisch. & Mey. Index Hort. Petrop.* 1835; *DC. Prodr.* 10, p. 118. Fort Reading, California.

AMSINCKIA, *sp.* Sonoma, California.

#### HYDROPHYLLACEÆ.—(By A. GRAY.)

NEMOPHILA INSIGNIS, *Lindl.; A. DC. Prodr.* 9, p. 270. Fort Reading, California.

NEMOPHILA PARVIFLORA, *Dougl.; A. DC. Prodr.* 9, p. 290. Petaluma and Sonoma, California.

NEMOPHILA ATOMARIA, *Fisch. & Meyer; A. DC. Prodr.* 9, 290. San Francisco, California.

PHACELIA CIRCINATA, *Jacq.; A. DC. Prodr.* 9, p. 298. Northern California, passim; shores of Klamath lake.

EUTOCA PHACELIOIDES, *Benth. in Linn. Trans.* 17, p. 276. Shores of Klamath lake.

EMMENANTHE (MILTITZIA) PARVIFLORA (sp. nov.): nana, depresso-ramosissima; foliis pinnatisubpartitis, lobis 5-9 integerrimis; floribus congestis brevissime pedicellatis; corolla flava calycem haud superante; stylo brevi; seminibus plurimis reticulatis.—Along the shores of the



Klamath lake. Root, without doubt, annual. Stems spreading nearly flat upon the ground, much branched, and, like the foliage, &c., minutely hairy and glandular. Leaves petioled, not dilated at the base; their lobes oblong or obovate, one or two lines long, the upper ones more confluent. Flowers crowded in somewhat scorpioid clusters, bractless. Pedicels much shorter than the calyx; bractlets none. Calyx in flower only about one and a half or two lines long, in fruit becoming three lines long; the sepals linear, obtuse, hairy and viscid. Corolla yellow, about the length of the calyx in anthesis, not increasing, but persistent, in fruit investing the lower two-thirds of the ripe capsule; rather narrow campanulate, 5-lobed, the short ovate lobes apparently quincuncially imbricated in aestivation, more or less hairy on the outside, within destitute of plicæ or appendages, except a very narrow and thin ring at the very base girding the base of the ovary, which rises into five slight and free lobes alternate with the stamens. Stamens inserted on the very base of the corolla, rather shorter than it: filaments a little dilated downwards: anthers short, didymous, incumbent; pollen globose. Ovary ovoid, densely hairy, truly 2-celled by the union of the placenta in the axis; style not longer than the ovary, nearly glabrous, 2-cleft at the summit, nearly persistent: stigmas capitellate, rather large. Ovules numerous, 32—40 in each cell, namely, 16 to 20 in two rows on each half of each placenta, amphitropous descending, more or less imbricated. Capsule three lines or a little more in length, loculicidal, ovoid, flattish parallel with the valves, incompletely 2-celled; the placenta in contact but not coherent at maturity; adnate to the middle of the valves for the whole length, each maturing from 10 to 20 pendulous seeds. These are oblong, somewhat angled, the thin testa delicately reticulated. Embryo slender, about the length of the albumen.

As to the affinities of this plant, I cannot doubt that it is a close congener of Hooker and Arnott's *Eutoca? lutea*, although I possess no specimens of that plant. Judging from the published description and figure, this appears to differ from our plant chiefly in the slightly, if at all, lobed leaves, the larger flowers, and more conspicuous corolla longer than the calyx, the much longer style, and the fewer, only 8,<sup>(?)</sup> ovules. The seeds, moreover, are represented with spiral markings, something like those of *Microgenites*, as figured in Gay's *Flora Chilena*. The inconspicuous disk, adnate to the corolla in our plant, is not noticed in the other, but it might readily be overlooked. Upon this plant Alphonse De Candolle founded his genus *Miltitzia*; and the present question is, whether that genus, now strengthened by a second species, is to be adopted, or whether it should be merged in Bentham's genus *Emmenanthe*? It will be seen that I incline to the latter view; but should retain *Miltitzia* as a subgenus, distinguished by considerable difference in habit, by the ovoid (instead of the oblong) ovary, and by the 10-toothed small disk being adnate to the very base of the corolla, instead of free from it. I perceive no other characters. The yellow or sulphur-colored and marcescent corolla marks the genus.

Plate XV. EMMENANTHE (*MILTITZIA*) PARVIFLORA. Part of the plant of the natural size. Fig. 1. A flower. 2. Corolla laid open, with the stamens. 3. Pistil, the ovary transversely divided. 4. A pistil, with the ovary vertically divided. 5. Portion of a placenta, with ovules. 6. A mature capsule, with the persistent calyx and corolla. 7. Transverse section of a capsule. 8. A valve of the capsule, with placenta and seed, seen obliquely. 9. A seed. 10. The same vertically divided, showing the embryo.

## POLEMONIACEÆ.

GILIA CAPITATA, *Dougl.; Benth. in DC. Prod. 9, p. 315.* Fort Reading, N. California; April, in flower.

GILIA TRICOLOR, *Benth. in DC. Prod. 9, p. 312.* Fort Reading, North California; April, in flower.

GILIA PULCHELLA, (*Dougl.*) *Hook. Flor. Bor.-Amer. 2, p. 74.* IPOMOPSIS ELEGANS, *Lindl. Bot. Reg. t. 1281.* Pine woods, N. California and Oregon; July, August.

GILIA PHARNECIOIDES, *Benth. Pl. Hartw. p. 325.* Fort Reading, N. California; April.

GILIA MICRANTHA, *Steud.; Benth. Pl. Hartweg. p. 324.* McCumber's, N. California; July, in flower.

GILIA DICHOTOMA, *Benth.; DC. Prod. 9, p. 314.* Fort Reading, California; April, in flower.

GILIA CONGESTA, *Hook. Flor. Bor.-Amer. 2, p. 75.* Hat creek, N. California; July, in flower.

GILIA INCONSPICUA, *Dougl. in Bot. Mag. t. 2883; DC. Prod. 9, p. 312.* San Francisco, California; April, in flower.

COLLOMIA GRANDIFLORA, *Dougl. in Bot. Reg. 14, t. 1174.* McCumber's, N. California, and shores of Klamath lake.

COLLOMIA GRACILIS, *Dougl.; Benth. in DC. Prod. 9, p. 308, & Plant. Hartweg. p. 323.* Sacramento valley, California.

POLEMONIUM REPTANS, *Linn.; Hook. Bot. Mag. t. 1887.* Crater pass, Cascade mountains, O. T.

POLEMONIUM CÆRULEUM, *Linn.; Hook. Flor. Bor.-Amer. 2, p. 71.* Shores of Klamath lake. O. T.; August.

PHLOX DIFFUSA, *Benth. Plant. Hartweg. p. 325.* In dry rocky places. Canoe creek, N. California; July.

LEPTODACTYLON PUNGENS? *Torr.; DC. Prod. 9, p. 316.* Flowers pink and white. Shores of Rhett lake; August.

LEPTODACTYLON HOOKERI, *Benth.; DC. Prod. 9, p. 316.* Near San Francisco, California.

## CONVOLVULACEÆ.

CONVOLVULUS CALIFORNICUS, *Chois. in DC. Prod. 9, p. 405.* Corolla yellowish-white. Hat creek, N. California; July.

CUSCUTA CALIFORNICA, *Hook. & Arn.; Chois. in DC. Prod. 9, p. 457.* Sacramento valley; July, in flower.

## SOLANACEÆ.

SOLANUM NIGRUM, *Linn. var. PUBESCENS, Hook. & Arn. Bot. Beech. p. 152.* Common throughout N. California, and on the Columbia river, O. T.

SOLANUM UMBELLIFERUM, *Eschsch.; Hook. & Arn. Bot. Beech. p. 375.* Near San Francisco.

DATURA STRAMONIUM, *Linn.* San Francisco, California. (Introduced.)

## GENTIANACEÆ.—(By ASA GRAY.)

GENTIANA AFFINIS, *Griseb. in Hook. Flor. Bor.-Am. 2, p. 56.* Shores of Klamath lake; August 22.

GENTIANA CALYCOSA? *Griseb. in Hook. Flor. Bor.-Am. 2, p. 58, t. 146.* Crater pass, Cascade mountains; altitude 6,000 feet.

*GENTIANA ACUTA*, *Michx*, var. *STRICTA*. Banks of Hat creek, California.

*GENTIANA SIMPLEX* (Sp. nov.) caule unifloro e radice annua simplicissimo parce foliato gracili (semipedali et ultra;) foliis lineari-lanceolatis oblongis crassiusculis; calyce quadrifido, segmentis lanceolatis; corolla cœrulea infundibuliformi imberbi haud coronata, lobis 4 oblongo-spathulatis integerrimis; antheris brevibus discretis; stylo brevi; stigmatibus rotundato-dilatatis; capsula stipitata; seminibus alatis. Upper Klamath lake; August.

It is not easy to fix upon the section of the genus to which this pretty and well-marked species should be referred. The discoverer not unnaturally took the plant for a *Cicendia*, notwithstanding the size of the blossom; but the stout style is persistent on the capsule and splits through in dehiscence, and all the characters are those of a *Gentian*. The slender stems are always simple, and bear from two to four pairs of small leaves, the uppermost remote from the solitary flower. The showy corolla is fully an inch long, and of a bright blue color. The stigmas are large and broad; the ovary tapers below into a decided stipe, which in fruit is half the length of the oblong capsule; and the seeds are broadly winged; their insertion sutural.

Plate XVI. *GENTIANA SIMPLEX*. Three entire plants. Fig. 1. The calyx laid open, and the ovary transversely divided. 2. Upper part of the corolla laid open, with the stamens, and the upper part of the pistil. 3. A capsule, dehiscent, with its stipe. 4. Seeds. The details variously magnified.

*ERYTHRAEA MUHLENBERGII*, *Griseb. in DC. Prod.* 9, p. 60. This is the "*Canchalagua*" of the natives of California, for which high medicinal virtues are claimed. It grows plentifully on the low grounds bordering Suisun bay; the flowers are rose red, numerous, and very pretty.

*MENYANTHES TRIFOLIATA*, *Linn.* Common in marshes in the Sacramento valley.

#### APOCYNACEÆ.

*APOCYNUM ANDROSEMIFOLIUM*, *Linn.* Banks of Pit river and McCumber's, California. Plant always smaller than in the Eastern States.

*APOCYNUM CANNABINUM*, *Linn.* Pit river, lower cañon; August 6.

#### ASCLEPIADACEÆ.—(By J. TORREY.)

*ASCLEPIAS FRÉMONTI*, *Torrey.* McCumber's, N. Cal.

*ASCLEPIAS FASCICULARIS*, var. *foliis latioribus*, *Decaisne in DC. Prod.* p. 569. Common in N. California and southern Oregon.

#### OLEACEÆ.

*FRAXINUS OREGANA*, *Nutt. Sylv.* 3, p. 59. Fort Reading, California.

#### ARISTOTOCHACEÆ.

*ARISTOLOCHIA CALIFORNICA*, *Torr. in Whipple. Rep.* p. 178. Banks of Sacramento near Fort Reading, California.

*ASARUM HOOKERI*, *Field. Sert. t.* 32. Cascade mountains, O. T.

#### CHENOPODIACEÆ.—(By JOHN TORREY.)

*OBIONE ARGENTEA*, *Moq. Chenop.* p. 76. Klamath lake.

*BLITUM RUBRUM*, *Reich.*; *Moq. in DC. Prodr.* 13, (*pars* 1,) p. 83. Klamath lake.

*ATRIPLEX PATULA*, *Linn.* Klamath.

ARTHOCNEMUM FRUTICOSUM, var. CALIFORNICUM, *Moq. in DC. Prodr.* 13, pars 2, p. 151. Suisun bay, California.

POLYGONACEÆ.—(By JOHN TORREY.)

POLYGONUM AVICULARE, *Linn.* Dalles of the Columbia; probably introduced.

POLYGONUM AMPHIBIUM, *Linn.* var. TERRESTRE, *Torr. Fl. N. St.* p. 403. McCumber's; July 29.

POLYGONUM TENUE, *Michx. Fl.* 1, p. 238. Klamath lake.

POLYGONUM COARCTATUM, *Dougl. in Hook. Flor. Bor.-Amer.* 2, p. 133.

RUMEX MARITIMUS, *Linn.* Marshes, Klamath lake. The specimens are scarcely two inches high, and yet are loaded with mature fruit.

RUMEX DOMESTICUS, *Hartm.*; *Hook. Fl. Bor.-Am.* 2, p. 129. McCumber's; grows in water.

ERIOGONUM MICROTHECUM, *Nutt. Pl. Gamb. in Jour. Acad. Phil. (n. ser.)* 1, p. 162. Psuc-see-que creek, O. T.; September.

ERIOGONUM NIVEUM, *Dougl. in Benth. Eriog.* Fort Dalles, O. T.; October 5.

ERIOGONUM FLAVUM, var. CRASSIFOLIUM, *Benth. Mss.* E. crassifolium, *Benth. in Hook. Fl. Bor. Amer.* 2, p. 134, t. 176.

ERIOGONUM POLYANTHUM, *Benth. in DC. Prodr.* Fort Reading and Hat creek? This species was found also by Mr. Brackenridge and by Col. Frémont in California.

ERIOGONUM NUDUM, *Dougl. in Benth. Eriog.* McCumber's, N. California.

LAURACEÆ.

OREODAPHNE CALIFORNICA, *Nees.* Tetranthera? Californica, *Hook. & Arn. Bot. Beech.* p. 159.

Laurus? regia, *Dougl. in Comp. Bot. Mag.* 2. Umbellularia Californica, *Nutt. Sylv.* 1, p. 87.

LORANTHACEÆ.

PHORADENDRON FLAVESCENS, var. PUBESCENS, *Engel. in Gray, Pl. Lindh.* 2, p. 212. Parasitic on *Æsculus Californica*, near Benicia; July.

ARCEUTHOBIUM OXYCEDRI, *Bieb.*; *Hook. Flor. Bor.-Amer.* 1, p. 278, t. 99. Common on *Pinus contorta* in northern California and Oregon.

CALLITRICHACEÆ.

CALLITRICHE VERNA, *Linn.* San Francisco, California; in water.

EUPHORBIACEÆ.

EREMOCARPUS SETIGERUS, *Benth. Bot. Sulph.* p. 53, t. 26. Croton setigerum, *Hook. Flor. Bor. Amer.* 2, p. 141. Gravelly banks of Sacramento river, Cal. The growing plant very fragrant.

EUPHORBIA MACULATA? *Linn.* Fort Dalles, O. T.; introduced?

NYCTAGINACEÆ.

ABRONIA MELLIFERA, *Dougl.*; *Chois. in DC. Prod.* 13, 2, p. 435. Flowers rose-colored, pretty. Shores of San Pablo bay, Cal.

ABRONIA ARENARIA, *Menz.*; *Chois. in DC. Prod.* 13, 2, p. 435. Flowers yellow, fragrant. Sandy beaches, near San Francisco, Cal.

CUPULIFERÆ.

QUERCUS AGRIFOLIA, *Nees, in Ann. Sci. Nat.* 3, p. 271. Common in Sacramento valley.



- QUERCUS GARRYANA, *Hook. Flor. Bor.-Amer.* 3, p. 159. Northern California and Oregon.
- QUERCUS HINDSII, *Benth. Bot. Sulph.* p. 55. Sacramento valley, Cal.
- QUERCUS KELLOGGII, *Newb. Q. tinctoria* var. *Californica*, *Torrey, in Whipple's Rep.* p. 138. Hills near San Francisco and Fort Reading.
- QUERCUS DENSIFLORA, *Hook. & Arn. Bot. Beech.* p. 391. *Q. Echinacea*, *Torr. l. c.*; *Nutt. Sylv.* 1, p. 11, t. 5. Foot hills, Sierra Nevada, Cal.
- QUERCUS FULVESCENS, *Kellogg, Proc. Cal. Acad.* 1, p. 67, 71. *Q. crassipocula*, *Torr. l. c.* Banks of Canoe creek.
- QUERCUS (Sp. ———.) We passed through thickets of a small oak, near Lassen's butte, N. Cal., which is apparently undescribed. Our specimens were unfortunately lost in crossing the Cascade mountains. The leaf and fruit resemble those of *Q. Garryana*, but the plant grows but 5 or 6 feet high.
- CASTANEA CHRYSOPHYLLA, *Dougl. in Hook. Flor. Bor.-Amer.* 2, p. 159. N. California and Cascade mountains, O. T.
- CORYLUS ROSTRATA, *Ait.* Common in Oregon Territory.

## MYRICACEÆ.

- MYRICA CALIFORNICA, *Cham. & Schlecht in Linnea*, p. 535. On the coast near San Francisco, California.

## BETULACEÆ.

- BETULA GLANDULOSA, *Michx.* Sphagnous marshes, Cascade mountains, O. T.; latitude 44°.
- BETULA OCCIDENTALIS, *Hook. Flor. Bor.-Amer.* 2, p. 155; *Nutt. Sylv.*, p. 22. Banks of Pseudissee-que creek, Des Chutes basin, O. T.
- ALNUS OREGANA, *Nutt. Sylv.* 1, p. 28, t. On the Sacramento and Columbia rivers.
- ALNUS VIRIDIS, *DC. Fl., Fr.* 3, p. 304. Cascade mountains, O. T.

## SALICACEÆ.

- POPULUS TREMULOIDES, *Michx. Flor. Amer.* 2, p. 243. Along streams, N. California and Oregon.
- POPULUS ANGUSTIFOLIA, *Torr. Ann. Lyc. Nat. Hist.* 2, p. 249. Banks of Columbia river.
- POPULUS MONILIFERA, *Ait.* Banks of Sacramento river, California.
- SALIX HINDSIANA, *Benth. Pl. Hartw. No.* 1956. Banks of Sacramento river, California.
- SALIX LASIANDRA, *Benth. Pl. Hartw. No.* 1954. Banks of Sacramento river, California.
- SALIX PENTANDRA, *Nutt. Sylva*, 1, p. 61, t. 18. Banks of the Willamette river, O. T.
- SALIX SPECTIOSA, *Nutt. Sylv.* 1, p. 58, t. 17. Banks of Columbia river, O. T.

## PLATANACEÆ.

- PLATANUS RACEMOSA, *Nutt. Sylva*, 1, p. 47, t. 15. Sacramento valley, California.

## URTICACEÆ.

- URTICA GRACILIS, *Ait.* McCumber's Flat, N. California.
- URTICA URENS, ? *Linn.* Banks of Canoe creek, N. California.

## CONIFERÆ.

PINUS LAMBERTIANA, *Dougl.; Lamb. Pinus, ed. 2, p. 57, t. 34.* Throughout northern California and Oregon.

PINUS SABINIANA, *Dougl.; Lamb. Pinus, ed. 2d, 2, p. 146, t. 80.* Foot hills of Coast mountains and Sierra Nevada, in California.

PINUS PONDEROSA, *Dougl.; Loud. Arboret. 4, p. 2243.* Throughout California and Oregon.

PINUS CONTORTA, *Dougl.; Loud. Encyc. Trees, fig. 1814-1815.* Common in the Sierra Nevada and Cascade mountains, in Oregon and California.

PINUS CEMBROIDES, *Zucc.; Jour. Lond. Hort. Soc. 2, p. 246.* On summits of Cascade mountains, O. T.

PINUS INSIGNIS, *Dougl.; Loud. Arboret. 4, p. 2265.* Near San Francisco and southward.

PICEA NOBILIS, *Dougl.; Loud. Arboret. 4, p. 2343.* Cascade mountains, O. T.

PICEA GRANDIS, *Dougl.; Loud. Arboret. 4, p. 2341.* Cascade mountains, O. T.

PICEA AMABILIS, *Dougl.; Loud. Arboret. 4, p. 2342.* Cascade mountains, O. T.

ABIES DOUGLASII, *Lindl. Penny Cyclop. 1, p. 32.* Throughout Oregon, and mountains of interior of California.

ABIES MENZIESII, *Dougl.; Loud. Arboret. 4, p. 2321.* Common in Oregon and mountains of California.

ABIES WILLIAMSONI, *Newb.* On summits of Cascade mountains, O. T.

SEQUOIA GIGANTEA, *Torr. in Sill. Jour. 2d ser., 18, p. 150.* Foot hills of Sierra Nevada, Cal.

SEQUOIA SEMPERVIRENS, *Endl. Syn. Conif. p. 198.* Coast mountains of California.

LIBOCEDRUS DECURRENS, *Torr. in Smithson. Contrib. 6, p. 7, t. 3.* Common in mountains of northern California.

THUJA GIGANTEA, *Nutt. Sylva, 3, p. 111.* Throughout mountains of Oregon.

TAXUS BREVIFOLIA, *Nutt. Sylva, 3, p. 86, t. 108.* In Cascade mountains and Sierra Nevada.

JUNIPERUS OCCIDENTALIS, *Hook. Flor. Bor.-Amer. 2, p. 166.* Great Basin east of Cascade mountains, and Sierra Nevada.

JUNIPERUS COMMUNIS, *Linn.* Summits of Cascade mountains, O. T.

CUPRESSUS NUTKATENSIS, *Hook. Flor. Bor.-Amer. 2, p. 165.* Summits of Cascade mountains, O. T.

TORREYA CALIFORNICA, *Torr. in N. Y. Jour. Pharm. 3, p. 49.* In Coast mountains, Cal.

LARIX OCCIDENTALIS, *Nutt. Sylva, 3, p. 143, t. 120.* Cascade mountains, O. T.

## II. ENDOGENOUS PLANTS.

BY JOHN TORREY.

## ARACEÆ.

SYMPLOCARPUS KAMTSCHATICUS, *Bong.; Hook. Flor. Bor.-Am. 2, p. 169.* Peat bogs, Cascade mountains, O. T.; lat. 44°.

## TYPHACEÆ.

TYPHA LATIFOLIA, *Linn.* Common from Sacramento valley to Columbia.

## NAIDACEÆ.

POTAMOGETON NATANS, *Linn.* Klamath lake.

## ALISMACEÆ.

TRIGLOCHIN MARITIMUM, *Linn.* Bartee's valley, northern California, August 1.

ALISMA PLANTAGO, *Linn.* In marshes throughout northern California and Oregon. Apparently entirely identical with the eastern plant.

SAGITTARIA VARIABILIS, *Engelm. ; Gray, Bot. N. U. S. p. 461.* Pit river, Klamath lakes, and Columbia river; July to November. The bulb of this plant is an important article of food among the Oregon Indians, by whom it is called *Wapatoo*.

## MELANTHACEÆ.

ANTICLEA DOUGLASHI, *Torr. in Whipple's Report.* Petaluma, California; February.

XEROPHYLLUM TENAX, *Pursh. Fl. 1, p. 243, t. 9.* Cascade mountains, Oregon Territory.

TOFIELDIA GLUTINOSA, *Pursh. Fl. 1, p. 246.* Crater pass, Cascade mountains.

VERATRUM VIRIDE, *Ait. Kew. (ed. 1.) 3, p. 896.* Meadows, McCumber's; August.

## LILIACEÆ.

DICHELOSTEMMA CONGESTA, *Kth. Enum. 4, p. 470.* Brodiaea congesta, *Smith, in Linn. Trans. 10, p. 3, t. 1.* Fort Reading, California, March 18. Flowers slightly fragrant.

CALOCHORTUS UNIFLORUS, *Hook. & Arn. Bot. Beechey, p. 398, t. 94.* Petaluma, California; April.

CALOCHORTUS MACROCARPUS, *Dougl. in Hort. Trans. 7, p. 276, t. 8.* Banks of Canoe creek, California, August.

BRODIAEA GRANDIFLORA, *Smith, in Linn. Trans. 10, p. 2.* McCumber's; August 29. Var. BRACHYPODA, *Torr. in Whipple's Report.*

HESPEROSCORDON LACTEUM, *Lindl. Bot. Reg. t. 1639.* McCumber's; July 29.

FRITILLARIA LANCEOLATA, *Pursh.; Hook. Fl. Bor.-Amer. 2, p. 181, t. 193.* Pine Wood pass? In fruit. Flowering specimen.

CHLOROGALUM POMERIDIANUM, *Kunth. Enum. 4, p. 682.* McCumber's. This is the celebrated Soap plant.

SMILACINA STELLATA, *Desf.* Head of Des Chutes river; September; in fruit.

CLINTONIA UNIFLORA, *Torr. Smilacina uniflora, Hook. Fl. Bor.-Am. 2, p. 175, t. 190.* Upper Des Chutes river. The fruit is a large, solitary, blue berry.

## SMILACEÆ.

TRILLIUM OVATUM, *Pursh, Fl. 1, p. 249.* Petaluma, California; February.

## ORCHIDACEÆ.

EPIPACTIS GIGANTEA, *Hook. Flor. Bor.-Amer. 2, p. 202, t. 202.* McCumber's and Mpto-ly-as river.

SPIRANTHES DECIPIENS, *Hook. Flor. Bor.-Amer. 2, p. 203, t. 204.* Spruce forests, Cascade mountains; September.

- SPIRANTHES CERNUA, *Rich.* Near Pit river (August) and McCumber's (July.)  
 PLATANATHERA LEUCOSTACHYS, *Lindl. Gen. & Sp. Orch. p. 288.* Canoe creek, California; August 1.  
 PLATANATHERA STRICTA, *Lindl. l. c.* Crater pass, Cascade mountains; September 1.

## IRIDACEÆ.

- IRIS HÆMATOPHYLLA, *Fisch.?*; *Hook. Flor. Bor.-Amer. 2, p. 206.* McCumber's.  
 IRIS MACROSIPHON, *Torr. in Whipple's report.* Sonoma, California; February.  
 SISYRHYNCIUM GRANDIFLORUM, *Dougl. in Bot. Reg. t. 1364.* Locality not recorded.  
 SISYRHYNCIUM BERMUDIANA, *Linn.; Torr. Fl. N. York 2, p. 291.* McCumber's.

## JUNCACEÆ.

- LUZULA CAMPESTRIS, *DC. Fl. Franc. 3, p. 161.* McCumber's, northern California.  
 LUZULA PARVIFLORA, *Desv. Jour. Bot. 1, p. 144.* Crater pass, Cascade mountains; altitude 6,500 feet; September 1.  
 JUNCUS CASTANEUS, *Smith;* var. *sepalis capsulam superantibus.* Crater pass, Cascade mountains, O. T.  
 JUNCUS BUFONIUS, *Linn.* Fort Dalles, O. T.; September.  
 JUNCUS TENUIS, *Willd. Sp. 2, p. 214.* McCumber's, California.

## CYPERACEÆ.

- CAREX LANUGINOSA, *Michx. Fl. 2, p. 175.* McCumber's, California.  
 CAREX CESPITOSA, *Linn.* Crater pass, Cascade mountains, September; altitude of 6,700 feet.  
 CAREX PYRENAICA, *Wahl.* With the last. Differs from the ordinary state of the plant in being apparently dioecious. No male flowers were found in the specimens. It is a rare species in North America.  
 SCIRPUS LACUSTRIS, *Linn.* Extremely abundant, covering immense areas in the Sacramento valley, Klamath basin, and on the Columbia. The *Tulé* of the Mexicans.

## GRAMINEÆ.

- ALOPECURUS GENICULATUS, var. *ARISTULATUS,* *Torr. Fl. N. St. p. 97.* Klamath marshes; August.  
 BECKMANNIA CRUCIFORMIS, *Host.* McCumber's.  
 FESTUCA SCABRELLA, *Torr. in Hook. Fl. Bor.-Am. 2, p. 252, t. 233.* This grass is abundant over all the Des Chutes and Klamath basins, and on the Cascade mountains, and is the famous "bunch grass" of the emigrants.  
 POLYPOGON, (*Sp. nov.?*) McCumber's and Pit river. This is not a very rare grass in California; it has the habit of *P. Monspeliense*, but differs from the genus in the glumes being scarcely awned, and in the rudimentary upper palea.  
 ELYMUS ARENARIUS, *Linn.* Banks of Pit river, and in many other parts of California. Sometimes eight feet in height; so high that, riding through it, it reached to the top of our heads while seated on our horses. It grows in all parts of California where there are deserted Indian lodges, and is, therefore, called by the inhabitants "rancheria grass." The seed is threshed out, and eaten by the Digger Indians.  
 HORDEUM JUBATUM, *Linn.* Rhatt lake, and throughout northern California and Oregon.

## CRYPTOGAMOUS PLANTS.

## EQUISETACEÆ.

EQUISETUM HYEMALE, *Linn.* Canoe creek, Northern California. Fertile stems sometimes paniculately branched at the summit; each branch bearing a terminal head of fructification.

EQUISETUM FLUVIATILE. On the Columbia river and San Francisco, California.

EQUISETUM EBURNEUM, *Schreb.* Coast mountains south of San Francisco.

## FILICES.

ADIANTUM TENERUM, *Willd.* Near San Francisco, California.

ADIANTUM PEDATUM, *Linn.* Cascade mountains, O. T.; range south of the Columbia.

ASPIDIUM MUNITUM, *Kaulf.* Cascade mountains. In fine fruit; September.

ASPIDIUM DILATATUM, *Swartz, Syn. Fil.* Cascade mountains, O. T.; September.

ALLOSORUS ACROSTICHOIDES, *Presl.* On congealed lava, passes of the Cascade mountains.

CHEILANTHES VESTITA, *Swartz.* A dwarf state of the plant; in tufts on rocks, Cascade mountains; altitude 7,000 feet; September.

BLECHNUM BOREALE, *Swartz.* Cascade mountains; latitude 44°; September.

PTERIS AQUILINA, var. LANUGINOSA, *Bong.* McCumber's; July.

## III. MOSSES AND LIVERWORTS.

BY W. S. SULLIVANT.

## MUSCI.

SPHAGNUM MOLLUSCUM, *Bruch.* Cascade mountains, O. T.

SPHAGNUM ACUTIFOLIUM, *Ehrh.* Bogs on Columbia river, O. T.

SPHAGNUM SQUARROSUM, *Pers.* Bogs, Cascade mountains, O. T.

POLYTRICHUM JUNIPERINUM, *Hedw.* Cascade mountains, O. T. Common.

AULACOMNION ANDROGYNUM, *Schw.* Cascade mountains, O. T.

MNIUM PUNCTATUM, *Hedw.* Cascade mountains, O. T.

ORTHOTRICUM LYELLI, *Hook. & Tayl.* Var. foliis longioribus. Cascade mountains, O. T.

WEISIA CIRRHATA, *Hedw.* Cascade mountains, O. T.

DICRANUM, (sp. undeterminable.)

NECKERA MENZIESII, *Hook.* Cascade mountains, O. T.

HYPNUM SPLENDENS, *Hedw.* Cascade mountains, O. T.

HYPNUM OREGANUM, *Sull.* Cascade mountains, O. T.

HYPNUM TRIQUETRUM, *Linn.* Cascade mountains, O. T.

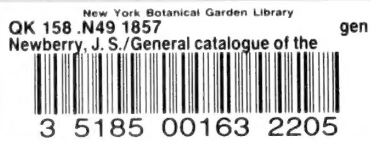
HYPNUM NUTTALLII, *Wils.*

HYPNUM ———? Cascade mountains, O. T.

HYPNUM UNDULATUM, *Linn.*

HYPNUM BREVIROSTRE? Cascade mountains, O. T.





## HEPATICÆ.

- MADOTHECA DOUGLASII, *Tayl.* Cascade mountains, O. T.  
 SCAPANIA NEMOROSA, *Nees.* Cascade mountains, O. T.  
 ANEURA, (undeterminable.)

## IV. LICHENS.

BY EDWARD TUCKERMAN.

- EVERNIA VULPINA, *Ach.* On *Juniperus* and *Libocedrus*.  
 EVERNIA OCHROLEUCA, var. SARMENTOSA, *Fr.* On *Picea grandis*; Cascade mountains, O. T.  
 EVERNIA FREMONTI, *Tuckerm.* On *Pinus contorta* and *P. ponderosa*; shores of Klamath lake.  
 STICTA PULMONARIA, *Ach.* On trees; banks of the Columbia.  
 CETRARIA GLAUCA, *Ach.* Trunks of trees and stones; Cascade mountains.  
 CLADONIA CORNUTA, *Fr.* Decayed wood; banks of the Columbia.  
 CLADONIA FIMBRIATA, *Fr.* On the earth; banks of the Columbia.  
 CLADONIA DIGITATA, *Hoffm.* With the last.  
 LECIDIA PARASEMA, *Fr.* Trunks of trees; banks of the Columbia.  
 SPHEROPHORON GLOBIFERUM, *DC.* On the ground; Washington Territory.