3. Pinus radiata.

P. foliis ternis? strobilis inæquilateri-ovatis : squamis radiato-rimosis umbilico depresso truncatis; baseos externæ triplò majoribus gibbosis subrecurvis.

Habitat in Californiâ, in maris littore ad Monterey. *Coulter*. ♄. (v. s. sp.)

Arbor rectissima, altitudinem circiter 100 pedes attingens, ramis latè patentibus copiosis ad basin usque ornata. *Strobili* aggregati, ovati, 6-pollicares, basi exteriore ventricosi: *squamis* cuneatis, crassis, spadiceis, nitidis, apice dilatatis, depressis, quadrangulis, radiato-rimosis, umbilico depresso; ad basin exteriorem triplò majoribus, apicibus elevatis, gibbosis, subrecurvis.

Found by Dr. Coulter about Monterey in latitude 36°, near the level of the sea, and growing almost close to the beach. The trees grow singly together, and reach the height of 100 feet, with a straight trunk, feathered with branches almost to the ground. It affords excellent timber, which is very tough, and admirably adapted for building boats, for which purpose it is much used.

4. Pinus tuberculata.

P. foliis ternis? strobilis inæquilateri-oblongis aggregatis : squamis apice quadrangulis umbilico depresso truncatis; baseos externæ majoribus elevatis conicis.

Habitat in Californiâ, in maris littore ad Monterey. *Coulter*. ♄. (v. s. sp.)

Arbor 100-pedalis. *Strobili* oblongi, aggregati (3), fulvo-cinerei, 4-pollicares, $2\frac{1}{2}$ uncias crassitie adæquant: *squamis* cuneatis, apice dilatatis, quadrangularibus, umbilico depresso truncatis, ad basin exteriorem majoribus apice elevatis, conicis.

Found by Dr. Coulter along with the preceding, which it resembles in size and habit, but is essentially distinguished by the form of its cones.

5. Pinus bracteata.

P. foliis solitariis bifariàm patentibus linearibus mucronatis planis subtùs ar-

genteis, strobilis ovatis, bracteolis trilobis; laciniâ intermediâ longissimâ foliaceâ recurvatâ.

Habitat in Californiâ, in montibus Sanctæ Luciæ, alt. 3000 ped. *Coulter*. ♄. (v. s. sp.)

Arbor elongato-pyramidata. *Truncus* rectissimus, gracillimus, 120 pedes altus, crassitie ad basin vix pedali, tertiâ parte superiore ramis tantùm onustus, cortice badio obductus. *Rami* verticillati, patentes; *inferiores* leviter decumbentes. *Folia* conferta, undique inserta, bifariàm tamen patentia, linearia, mucronata, plana, coriacea, rigida, bi- v. nunc ferè tri-pollicaria, lineam circiter lata, suprà lætè viridia, nitida, lineâque depressiusculâ exarata, subtùs argentea, margine parùm revoluta, costâ apiceque callosis. *Strobili* in ramis tantùm adultioribus solitarii, laterales, subsessiles, erecti, ovati, turgidi, vix 4-pollicares, diametro 2-unciales, basi squamis pluribus ovato-oblongis, acutis, scariosis, laceris, spadiceis, revolutis, persistentibus muniti: *squamis* reniformi-rotundatis, concavis, stipitatis, substantiâ crassis, induratis, pallidè fuscis, margine incurvis, crenulatis, extùs rore glauco cœrulescentibus, stipite suprà acutè carinatâ, disco breviore. *Bracteæ* cuneatæ, adpressæ, coriaceæ, rigidæ, squamis concolores et iisdem breviores, infernè adnatæ et callosæ, apice trilobatæ; *lobis lateralibus* brevissimis, rotundatis, erosè dentatis; *intermedio* recurvato, sesquipollicari, foliis propriis omninò conformi! sed duplò angustiore. *Semina* cuneato-oblonga, tetragona; *testâ exteriore* (priminâ) cinereo-fulvâ, angulo interno disjunctâ, apertâ, ibique nucleum exponente, apice in alam inæquilateri-obovatam, integerrimam, tenuissimè membranaceam, planam, reticulatam extensâ. *Nucleus* testâ propriâ (secundinâ) crustaceâ sordidè fuscâ inclusus, apice alâ brevissimâ membranaceâ erosâ coronatus.

This curious and interesting species of Fir was discovered by Dr. Coulter on the sea side of the mountain range of Santa Lucia, about 1000 feet lower down than *Coulteri*. The trunk rises to the height of 120 feet, is very slender, not exceeding two feet in circumference, and as straight as an arrow. The upper third of the tree is clothed with branches, giving it the appearance of an elongated pyramid. The branches are spreading, the lower ones are decumbent. The bractes are long and recurved, and but little changed from

the ordinary leaves, which give the cones a singular appearance. The seeds are remarkable for a peculiarity in their structure, in having the nucleus exposed at the inner angle of the seed through a considerable opening in the outer testa, as if the junction of the two sides had been prevented by the rapid enlargement of the nucleus*. It is only the middle branches that bear cones.

* This peculiarity in the structure of the seeds I have since noticed also in *P. Webbiana*, and in several other species belonging to the group of silver firs.

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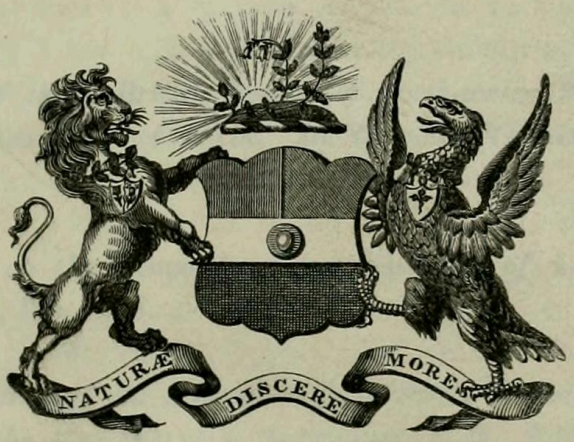

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