Yucca, of which about eighteen species can be distinguished, is confined to the New World, where it ranges from Maryland, western Iowa, South Dakota, and southern California, to Lower California, Yucatan, and Central America, the region of its greatest development being in the territory adjacent to the boundary between the United States and Mexico. Twelve species[1] inhabit the United States, eight of them assuming the habit, and attaining the size of trees, while the others are stemless. At least one arborescent species[2] is endemic in northern Mexico, one[3] ranges from southern Mexico to Guatemala; the flora of Yucatan contains another arborescent Yucca,[4] and several still little known species have been found in Lower California.[5] The tertiary rocks of western Europe contain remains which indicate that Yucca is an ancient form, and that it was once more widely scattered over the earth's surface than it is at present.[6]

The saponaceous root-stocks of Yuccas are used by Mexicans and Indians as a substitute for soap.[7] The fibrous wood is occasionally sawed into lumber, and has been manufactured into paper-pulp. The fleshy fruits of several species, which contain a large amount of sugar, are edible, and in Mexico are frequently made into a fermented beverage, which is occasionally distilled.[8] The tough fibres of the leaves of the Bear Grass, *Yucca filamentosa*,[9] are used domestically in the United States in binding, and those of some of the Mexican species are made into ropes. The leaves of most of the species were woven into baskets by the Indians, who used them also in the manufacture of mats and whips;[10] and the tender ends of the growing stems are roasted and eaten in Mexico.[11] The young stems of

[1] By means of the artificial fecundation of different species performed in his garden at Marseilles several years ago, Monsieur Delenil secured large quantities of seed, from which he has raised a number of hybrid Yuccas. (See Delenil, *Rev. Hort.* 1880, 225. — André, *Rev. Hort.* 1883, 109.) One of these hybrids, produced by crossing *Yucca lævigata*, itself a hybrid of *Yucca aloifolia* and a form of *Yucca glauca*, with *Yucca glauca* is now cultivated in many gardens as *Yucca Carrierei* (André, *l. c.* 1895, 81, f. 21–23).

[2] *Yucca filifera*, Chabaud, *Rev. Hort.* 1876, 432, f. 97. — Carrière, *Rev. Hort.* 1879, 262; 1884, 53, f. 12, 13. — Sargent, *Garden and Forest*, i. 78, f. 13, 14. — *Gard. Chron.* ser. 3, iii. 743, f. 97, 100. — Fenzi, *Bull. Soc. Tosc. Ort.* ser. 2, iv. 278, t. 9. — Baker, *Bot. Mag.* exvii. t. 7197. — Trelease, *Rep. Missouri Bot. Gard.* iv. 193.

Yucca baccata, β *australis*, Engelmann, *Trans. St. Louis Acad.* iii. 44 (in part) (1873). — Watson, *Proc. Am. Acad.* xiv. 252 (in part). — Baker, *Jour. Linn. Soc.* xviii. 229 (in part).

Yucca australis, Trelease, *l. c.* iii. 102 (in part), t. 3, 4 (1892); iv. 190 (in part).

Yucca filifera, the largest of the Yuccas now known, is a tree, often fifty feet in height, with a trunk frequently twenty feet tall and five feet in diameter, and many wide-spreading branches, and is distinguishable from all other species by its pendulous panicles of flowers and fruit, which are often six feet in length. It forms open forests of great extent on the plains which rise from the lower Rio Grande to the Sierra Madre, and ranges southward to San Luis Potosí. Introduced nearly forty years ago into the gardens of Europe, it is also occasionally cultivated in some of the Texan towns along the Rio Grande, and in northern Mexico, where it is often used in the neighborhood of Monterey and Saltillo to form stockades.

[3] *Yucca Guatemalensis*, Baker, *Refugium Bot.* v. t. 313 (1872); *Jour. Linn. Soc. l. c.* 222. — Engelmann, *l. c.* 38. — Watson, *l. c.* 251. — Hemsley, *Bot. Biol. Am. Cent.* iii. 371. — Trelease, *l. c.* 162; iv. 184, t. 1, 2, 19.

This arborescent much-branched species, which is little known in a wild state, is said to be one of the common Yuccas in the gardens of southern France and the Riviera, where it usually appears as *Yucca Draconis*, although it is not the Linnæan plant of that name. (See Baker, *Kew Bull. Misc. Information*, January, 1892, 7.)

[4] *Yucca Yucatana*, Engelmann, *l. c.* 37 (1873). — Watson, *l. c.* 251. — Baker, *Jour. Linn. Soc. l. c.* 222. — Hemsley, *l. c.* — Trelease, *l. c.* 45; *l. c.*

[5] Brandegee, *Proc. Cal. Acad.* ser. 2, ii. 208, t. 11 (*Pl. Baja Cal.*); iii. 175.

[6] Bureau, *Mém. Publiés par le Soc. Philomathique à l'Occasion du Centenaire de sa Fondation*, 255, t. 23 (*Etudes sur la Flore Fossile du Calcaire Grossier Parisien*).

[7] Loew, *Wheeler's Rep.* iii. 609. — Palmer, *Am. Nat.* xii. 646. — Abbott, *Proc. Am. Phil. Soc.* n. ser. xvi. 251 (*A Chemical Study of Yucca angustifolia*). — Newberry, *Popular Science Monthly*, xxxii. 42 (*Food and Fibre Plants of the North American Indians*).

[8] Havard, *Bull. Torrey Bot. Club*, xxiii. 37 (*Drink Plants of the North American Indians*).

[9] Linnæus, *Spec.* 319 (1753). — Walter, *Fl. Car.* 124. — *Bot. Mag.* xxiii. t. 900. — Redouté, *Liliacées*, v. t. 277, 278. — Elliott, *Sk.* i. 400. — Loiseleur, *Herb. Amat.* iv. t. 258. — Chapman, *Fl.* 485. — Engelmann, *l. c.* 51. — Watson & Coulter, *Gray's Man.* ed. 6, 524.

This stemless and very variable species inhabits sandy barren soil and abandoned fields in the neighborhood of the coast from southern Maryland southward to Florida and westward along the southern borders of the Gulf states to Louisiana. It is the best known of all the Yuccas in northern gardens, which it enlivens in midsummer with its great panicles of large ivory-white flowers.

The tough leaves of this species are twisted and used in the southern states for hanging hams and for other domestic purposes. Attempts have been made to utilize their fibre commercially; but, though it is exceedingly strong and cheaply produced, the shortness of Yucca-fibre lessens its value, and it has not yet been successfully introduced into commerce. (See Porcher, *Resources of Southern Fields and Forests*, 530. — C. R. Dodge, *U. S. Dept. Agric. Fibre Investigation Rep.* No. 5, 70 [*A Report on the Leaf Fibres of the United States*].)

[10] Havard, *Garden and Forest*, iii. 631.

[11] Bartlett, *Personal Narrative of Explorations and Incidents in*