SILVA OF NORTH AMERICA.

YUCCA.

FLOWERS perfect; perigone 6-parted, the segments more or less united at the base; stamens 6; ovary superior, 3-celled; ovules numerous in each cell, horizontal. Fruit baceate, fleshy and indehiscent, or capsular and dehiscent. Leaves clustered at the summit of the stem, linear-lanceolate, entire, serrate or filamentose, exstipulate, persistent.

Yucca, Linnaus, Gen. 99 (1737). - Adanson, Fam. Pl. ii. 49. - A. L. do Jussien, Gen. 49. - Endlicher, Gen. 144. -Meisner, Gen. 398. - Engelmann, Trans. St. Louis Acad.

ili. 17. - Bentham & Hooker, Gen. ili. 778. - Engler, Engler & Prantl Pflanzenfam. ii. pt. v. 70. Codonoorinum, Willdenow, Roemer & Schultes Syst. vii. pt. 1. 718 (1829).

Plants, with endogenous stems subterranean or barely emerging from the surface of the ground, or sometimes rising into tall simple or branched columnar trunks covered with dark thick corky bark. light fibrous wood in concentric layers, thick stoloniferous saponaceous root-stocks and thick rootlets, or long tough stout roots. Buds naked, in the axils of upper or of lower leaves, ovate, acute, flattened by pressure against the leaves, their lowest leaves white, scarious, and early deciduous, prolonging the stem after the death of its apex with the terminal inflorescence, often remaining dormant in the stem for years, and then producing lateral clusters of leaves. Leaves involute in the bud, alternate, mostly closely imbricated at the summit of the stem, erect at first, becoming reflexed, lelongated, linearlanceolate, abruptly narrowed above the broad-clasping often much thickened base, usually widest near or above the middle, concave and involute toward the apex below the horny usually sharp-pointed, rarely obtuse, occasionally soft and herbaceous, terminal spine, thick and ridged or thin and flaccid, more or less concave and sometimes deeply channeled on the upper surface, convex and usually bluntly keeled toward the base on the lower surface, smooth or scabrous, the margins serulate with small remote irregular cartilaginous teeth, or roughened while young with minute deciduous knobs and soon becoming discolored and brittle, or filamentose by the separation of the marcescent marginal fibres into thick or thin, straight or curved, white or reddish threads, bright or dull green or glaucous, persistent for one or many years, exstipulate. Flowers slightly fragrant or strong-smelling, entomophilous,² produced in large many-flowered terminal compound glabrous pubescent or tomentose

¹ The reflexion of the leaves of Yucca aloifolia and other species as studied by Webber (Rep. Missouri Bot. Gard. vi. 98) is contemporaneous with the completion of the definite growths or phytomeroids of the stem, only the leaves of the last phytomeroid being erect. After this has produced its panicle of flowers and fruits, or in about two years after the appearance of the hud at the base of the papicle of the previous growth, the leaves on this terminal phytomeroid all begin slowly to reflex, and, becoming more and ferred from its native region and deprived of the visits of the

more dependent and depressed against the stem, and finally dying at the end of several years, remain for several years more on the plant.

² The structure of the flower of Yucca, with stamens shorter than the ovary, precludes self-fertilization, and the large policy masses cannot reach the stigmatic tubo except through the agency of insects. Only one species is known to produce fruit when train-