The smallest of the Bayonet Plants

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A review of the smallest and most succulent of the yuccas, now placed in its own section *Endlichiana*.

Born in New York, William Trelease (1857–1945) rose to become a huge influence over American botany. Amongst other plant groups he was very interested in *Agavaceae*, including *Yucca*, and described many new species. One of these was *Yucca endlichiana*, first described in 1907.

Trelease had received his original plants from Dr R Endlich, who reported that it was known locally in Coahuila as Pitilla, and produced a better fibre than that of the common Lechuguilla, *Agave lechuguilla*.

Rudolf Endlich (–1915) was a German plantsman who collected in Mexico between 1903 and 1907 and whose main interest at that time was in agaves and yuccas, their economic uses, and especially the value of their leaf fibres. Plants that were unfamiliar to him were sent to Trelease, the recognised authority on this plant group, for identification.

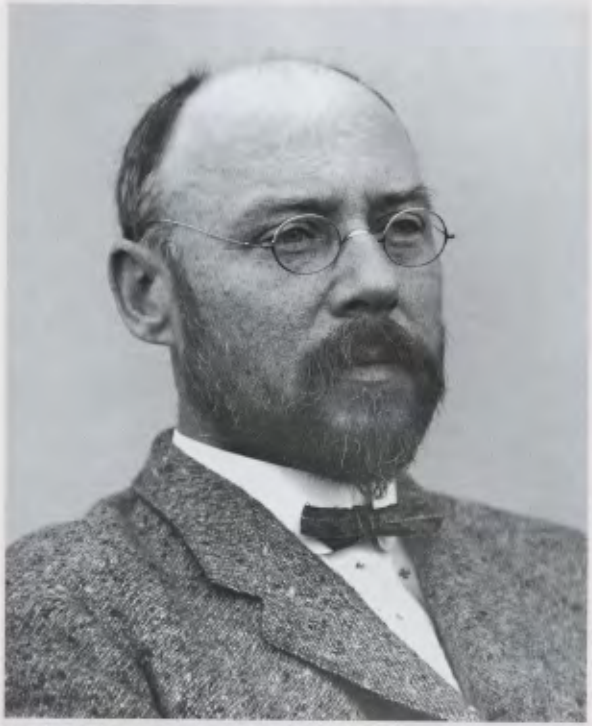

Fig. 1 William Trelease (1857-1945) in 1906
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Mainly because of its fleshy fruits, Trelease chose to classify it close to *Yucca baccata* in section *Yucca*, where it was maintained by subsequent authors. It does, however, differ in several other essential characters, and appears to have no particularly close relatives. It may well be that it deserves recognition under its own genus, but for the moment a more conservative approach is thought to be wise, and so it is now considered to belong in its own section of *Yucca*, validated here. This concept is supported at the molecular level by recent investigations (Clary, K H, 1997).

Yucca* section *Endlichiana* Hochstätter *sectio novum

A genere *Yucca* sectionibus alteris (*Yucca*, *Clistocarpa*, *Chaenocarpa*, *Hesperoyucca*) rhizomatibus foliisque et floribus succulentis etiam formis florum differt; acauli; inflorescentia brachypodus cum floribus aperientibus remanentibusque prope basim inter folia et usque in solo inclinatis; fructus carnosis, tenuidermis, cernuis dependentes tenuicarnosi sunt. Habitat ad terram calcaream.

Typ: *Yucca endlichiana* Trelease.

Differs from other sections of the genus *Yucca* (*Yucca*, *Clistocarpa*, *Chaenocarpa*, *Hesperoyucca*) in having fleshy rhizomes, leaves and flowers, and also in the shape of the flowers; acaulescent; inflorescence short-stalked, with flowers opening and remaining near the base among the leaves and leaning towards the ground; fruits fleshy, thin-walled, hanging down. Grows on calcareous ground.

Fig. 2 *Yucca endlichiana FH334* (Mexico, Coahuila, San Hipolito, 1055m) (Photos of leaves and top right picture of a typical colony: Fritz Hochstätter. Photos of flower, fruit and fruiting plant: Michael Bechtold)

(Leaf = 25cm long)

Yucca endlichiana Trelease

Key to the sections of the genus Yucca L.

1. Fruit indehiscent 2
   Fruit dehiscent 3
2. Acaulescent; leaves, flowers & rootstock fleshy, rhizomatous; inflorescence basal, included among leaves; seeds roughened, with short marginal wing ..... section *Endlichiana*

   Leaves and flowers non-succulent; root system fibrous; seeds lacking marginal wing 4
3. Leaf blade thin, usually narrow, flexible, sometimes broad, canaliculate, somewhat rigid; fruit a dry capsule at maturity, held erect; seeds smooth, flat, thin, with or without a marginal wing 5
4. Leaves large, canaliculate, stiff and sword-like, or thin and flexible; fruit large and fleshy, eventually hanging, drying to present a rough, leathery, dark brown to black surface, often sticky; seeds flat but more or less thickened, without a marginal wing, and with roughened surface ..... section *Yucca*

   Leaves small, thin, narrow, flat to canaliculate, rigid and tapering, ending in a sharp tip; fruit dry, spongy, erect. Seeds flat, thin, with smooth surface, lacking marginal wing ..... section *Clistocarpa*
5. Plants solitary, sometimes monocarpic, or sprouting from leaf axils; inflorescence terminal, very long (4–5m), broad, with short to long branches, succulent ..... section *Hesperoyucca*

   Plants solitary or branched, not monocarpic; inflorescence less than 4m long, with thin, short, non-succulent branches ..... section *Choenocarpa*

Description of *Yucca endlichiana*

Stemless, with a rhizomatous, tuberous root system, forming 40–80cm high hummocks, up to 50cm broad. Side shoots numerous, each shoot bearing 4–6 bluish-green succulent leaves. The leaves are markedly canaliculate, covered with short black flecks, erect or recurving, curved, strong, 30–50cm long, up to 1.5cm broad, with dark brown to black margins, bearing strong, twisted, flexible, grey fibres, with a strong, dark brown terminal thorn, sometimes blunt in age.

Inflorescence very short and included between the leaves, with short branches bearing only 3–6 flowers per branch. Flowers creamy-white to reddish-purple, globose, with perianth segments 2cm long and wide, and oblong, red-brown ovary.

Fruit fleshy, hanging, spherical to ovate, brownish when ripe, 2–2.5cm long and wide. Seeds black, variable in shape, round to oval, 6mm long and wide, 1–2mm thick, with a strongly striated testa and convex testa cells.

Distribution: Mexico, Coahuila, in the Chihuahuan Desert, Sierra la Paila, Sierra de Parras, Sierra del Rosario. Endemic. Associated flora includes *Yucca treculiana, Yucca torreyi, Agave lechuguilla, Echinocactus horizonthalonius, Lophophora williamsii, Ariocarpus kotschoubeyanus, Echinocereus* spp., *Opuntia* spp., mostly in flat plains, associated with limestone, at 1000–1200m altitude.

Representative material studied: *FH334* (Mexico, Coahuila, San Hipolito, 1055m).

Cultivation

Slightly tender as yuccas go, and for safety best overwintered frost-free and dry in northern European pot cultivation, but they are known to have survived very light frosts. Pots may be stood outdoors for the summer months. Standard potting composts are suitable, preferably with extra lime-free grit. The growth rate is very slow. Flowers are produced in May.

Until recently they have been rarely seen in cultivation. However, they are currently being grown successfully by Chris Hynes, Cheshire, Michael Bechtold, Mannheim, Germany and Jos van Roosbroeck, Belgium. ISI distributed seedlings in 2005, and occasional offers of young plants can be found on either eBay or the BCSS Forum. It is certainly gaining in popularity as it is a very choice though little-known plant.

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