

HARRISIA BROOKII BRITTON (CACTACEAE) FOUND ON ELEUTHERA

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Introduction

The genus *Harrisia* (Cactaceae) was described by Nathanael Lord Britton (1908), and named in honour of William Harris, Superintendent of Public Gardens in Jamaica. *Harrisia* comprises approximately 20 species, and is native to Caribbean islands, as well as Florida (United States), Argentina, and Paraguay (Anderson 2001). Members of the genus are widely cultivated (A.F.C.E.V. 1998), and some have become very invasive in central Africa and Australia (Anonymous 2007, Mabberley 1997). Fruits of some species are sweet and edible (Parfitt & Gibson 2003). Several *Harrisia* species are considered rare and possibly endangered (Anderson 2001, Parfitt & Gibson 2003).

Harrisia brookii Britton (Apple cactus) is one species of the six genera and 14 species of cacti (Cactaceae) reported for the Bahamas by Correll & Correll (1982) in their *Flora of the Bahamas Archipelago*. It was named by Britton from material collected by Britton and C.F. Millspaugh on Long Island, Bahamas in 1907. Until this discovery, *H. brookii* have been known from only from Correll's "Area 4", in which are included the Ragged Island range and Long Island (Correll & Correll 1982), which fall into "Groups 7 and 8" in the system of Freid et al. (2003). In the New York Botanical Garden Herbarium (NY), where Britton's type specimens are located, there are collections only from Long Island, as is the case in the U.S. National Herbarium (US) at the Smithsonian Institution. Thus, it appears that the previously known range of the species is restricted to Long Island (Group 8). *Harrisia brookii* is listed as an Appendix II species in

the CITES list (Hunt 1999), and thus trade in the species is restricted.

Discovery on Eleuthera

While I was conducting research with Charles Kwit on Eleuthera in November 2006, a group of biologists asked me to look at an unusual cactus that had been found near one of their research sites on private land in the south-central area of the island (the exact location is not provided here, in order to protect the plants).

After examining two populations, I made the deter-



Figure 1. *Harrisia brookii* on Eleuthera Island, Bahamas. Habit photo. The plants illustrated are about 8 feet in height. (Vincent 13400).

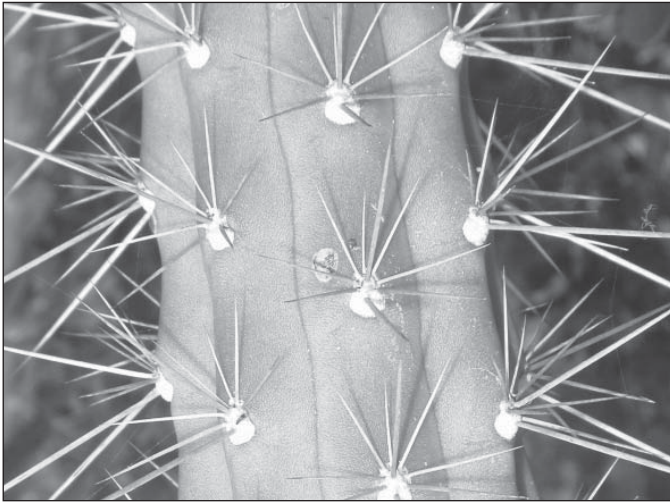


Figure 2. *Harrisia brookii* on Eleuthera Island, Bahamas. Close-up of the stem on the species, showing the ribs and areoles with long spines. The spines are about 3cm in length. (Vincent 13400).

mination that the cactus is *Harrisia brookii*. At one population, only a single individual could be located. The other population was large, consisting of at least 60 individuals spread over an area of nearly 5000 sq. ft. The sites are disturbed, showing evidence of old or recent garden activity.

Associated woody species included: *Zanthoxylum fagara* (L.) Sarg. (Rutaceae - predominating); *Metopium toxiferum* (L.) Krug. & Urb. (Anacardiaceae); *Bursera simaruba* (L.) Sarg. (Burseraceae); *Ateramnus lucidus* (Sw.) Rothm. (Euphorbiaceae); *Acacia choriophylla* Benth., *Calliandra haematomma* (Bert.) Benth., *Leucaena leucocephala* (Lam.) DeWit, *Piscidia piscipula* (L.) Sarg., *Pithecellobium keyense* Britt. ex Britt. & Rose (Fabaceae); *Eugenia axillaris* (Sw.) Willd. (Myrtaceae); *Guapira discolor* (Spreng.) Little (Nyctaginaceae); *Randia aculeata* L. (Rubiaceae). Associated herbaceous species included: *Ipomoea microdactyla* Griseb. (Convolvulaceae); *Euphor-*



Figure 3. *Harrisia brookii* on Eleuthera Island, Bahamas. Mature fruit. The fruit illustrated is about 8cm in length. (Vincent 13400).

bia blodgettii Engelm. ex Hitchc., *Euphorbia heterophylla* L. (Euphorbiaceae); *Galactia spiciformis* T. & G. (Fabaceae); *Ocimum micranthum* Willd. (Lamiaceae); *Abutilon permolle* (Willd.) Sweet (Malvaceae); *Dactyloctenium aegyptium* (L.) Beauv., *Lasiacis divaricata* (L.) Hitchc., *Paspalum blodgettii* Chapm., *Sporobolus domingensis* (Trin.) Kunth (Poaceae); *Portulaca pilosa* L. (Portulacaceae); *Waltheria indica* L. (Sterculiaceae); *Cissus intermedia* A.Rich. (Vitaceae).

The individuals observed ranged in size from sexually mature adult plants 2.4 meters tall, to small young individuals about 10cm in height. Plants were simple erect stems to sprawling, much-branched individuals (Fig. 1). Stems of the species are narrow, being only about 4-6cm in diameter at the base, with 9 lengthwise ridges (Fig. 2). Areoles on the ridges are spaced about 2cm apart, with 8-9 long spines per areole, the longest of which are just under 3cm. The plants were not in flower, though there were small flower buds on a few specimens. Fruits were found on 4 stems; these were globose, ca. 8cm long and 7cm wide, and are markedly mammillate when young, becoming low-tuberculate with age, with small areoles covered by long (ca. 1-1.2cm) white hairs. Fruits are dark green when young, becoming yellow when ripe (Fig. 3).

Origins and Conservation

The origins of these populations of *H. brookii* are unclear at present. It is quite possible, given the proximity to Long Island, that the species is native on Eleuthera. However, it is also possible that it was introduced as a garden plant, since the fruits of some species of the genus are eaten.

Harrisia brookii is extremely rare, and all populations should be given protection to assure survival of the species. Since it is one of the only truly endemic species in the Bahamas, it is a national treasure and should be preserved.

VOUCHER MATERIALS: Bahamas; Eleuthera Island, 5 Nov 2006, Vincent 13393 (photographic voucher only; MU, Bahamas National Herbarium); ibid, Vincent 13400 (photographic voucher only; MU, Bahamas National Herbarium).

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