

THE VEGETATION OF A BAHAMIAN CAY INHABITED BY A POPULATION OF ROCK IGUANAS

BY R. EHRIG AND R. MOYROUD

The Allan's Cays are a group of very small islands at the northern end of the Exumas Island chain in the central Bahamas. The group consists of three cays: Allan's Cay, Leaf Cay, and Southwest Allan's or U-Cay.

The Allan's Cays are the entire natural range of the Allan's Cay Iguana, *Cyclura cyclura inornata*. It is unknown if the range of this iguana was larger in the past.

Allan's Cay is the largest of the three islands (18 acres). It is long, narrow, and extremely rocky with an undulating ridge running most of its length. The ridge rises to 45 foot (14.6m) elevations at several points and supports a stunted, wind-blown forest growing out of most of the crevices in the bare limestone. It has the most cacti of the three islands. Only six iguanas are confirmed living on the cay. All appear to be mature males. No areas suitable for nesting exist on this island.

U-Cay (10 acres) is a horseshoe shaped island with two long rocky ridges and a broad sandy area in the center. In many respects, this island is a cross between the other two. U-Cay supports a dense population of iguanas. The sandy plain offers some nesting opportunities.

Leaf Cay (11 acres) is the most heavily visited island in the group. It has several beautiful beaches, rocky shoreline and much of the interior is a sandy plateau rising to 25 feet (8m) above sea level. Leaf Cay has a dense iguana population. The island has many suitable areas for nesting, especially the dune along the northeast coast. Leaf Cay has a diverse flora for such a small island. Substantial feeding of iguanas occurs here because of the popularity of this anchorage with boaters. This supplemental feeding probably reduces some of the impact the iguanas have on the native vegetation.



Allan's Cay Iguana, *Cyclura cyclura inornata*, male near burrow on U-Cay. Photography: R. Ehrig

Young male Allan's Cay Iguanas, *Cyclura cyclura inornata*, among the sea oats, white spot indicates that the iguana has been censused. Photography: R. Ehrig



ALLAN'S CAY GROUP (BAHAMAS) PLANT LIST

The Vegetation of Leaf Cay

● = Very abundant ■ = Moderate ▲ = Uncommon

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|------------------------------------|--------------------------|
| ■ Acacia choriophylla | Cinnecord |
| ▲ Amyris elemifera | Torchwood |
| ■ Antirhea myrtifolia | Antirhea |
| ▲ Argythamnia lucayana | Argythamnia |
| ■ Bumelia americana | Wild Saffron, Milk-berry |
| ▲ Calliandra formosa | White calliandra |
| ● Casasia clusiifolia | 7-year apple |
| ■ Coccoloba diverifolia | Pigeon plum |
| ● Coccothrinax argentata | Silver palm |
| ▲ Cocos nucifera | Coconut |
| ▲ Conocarpus erectus | Green buttonwood |
| ● Conocarpus erectus var. sericeus | Silver buttonwood |
| ▲ Crossopetalum rhcoma | Wild cherry |
| ▲ Cyperus sp. | Sedge |
| ▲ Distichlis spicata | Salt-grass |
| ■ Erithalis fruticosa | Black torch |
| ■ Ernodea littoralis | Golden creeper |
| ▲ Eugenia foetida | Spanish stopper |
| ■ Eugenia axillaris | White stopper |
| ■ Guaiacum sanctum | Lignum vitae |
| ● Guapira discolor | Bolly |
| ▲ Hymenocallis sp. | Spider lily |
| ▲ Iresine flavenscens | Coastal iresine |

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|---------------------------------|----------------------|
| ● Jacquinia keyensis | Joewood |
| ▲ Laguncularia racemosa | White mangrove |
| ● Manilkara bahamensis | Wild dilly |
| ▲ Mastichodendron foetidissimum | Mastic |
| ▲ Opuntia nashii | Nash's prickly-pear |
| ▲ Opuntia stricta var. dillenii | Common prickly-pear |
| ▲ Paspalum distichum | Knot grass |
| ■ Pithecellobium bahamensis | Bahama Cat's claw |
| ■ Pithecellobium guadalupensis | Blackbead |
| ■ Pseudophoenix sargentii | Cherry palm |
| ▲ Psidium sp. | Stopper |
| ■ Randia aculeata | Randia |
| ● Reynosia septentrionalis | Darling plum |
| ● Rhachicallis americana | Hog-bush |
| ▲ Sesuvium portulacastrum | Seaside purslane |
| ▲ Solanum bahamense | Bahama nightshade |
| ■ Sophora tomentosa | Necklace pod |
| ▲ Spartina patens | Saltmeadow cordgrass |
| ▲ Sporobolus virginicus | Seashore dropseed |
| ▲ Strumpfia maritima | Strumpfia |
| ● Suriana maritima | Bay cedar |
| ● Thrinax morrisii | Thatch palm |
| ▲ Uniola paniculata | Sea oats |
| ▲ Uniola virgata | Spike-grass |
| ▲ Ximenia americana | Hog plum |

There is very compelling evidence for the effect of the herbivorous land iguanas on the distribution and frequency of the species present on these isolated islands. The main sources of food and water for the iguanas are leaves, fruit, and flowers. Iguana scats resemble cigars, and appear to be mostly leaf matter, but some seeds were distinguishable. Only *Casasia* had appreciable quantities of fruit at the time of our visit.

All of the vegetation is evergreen, but there are seasonal flushes of growth, generally coinciding with the rainy season. In severe droughts, some plants may drop so many leaves that they appear to be dead. Fruit production is seasonal in most genera (*Bumelia*, *Coccothrinax*, *Coccoloba*, *Manilkara*), but are essentially year-round in others (*Casasia*).

Among the most obviously grazed plants are: *Ernodea littoralis* (golden creeper), *Reynosia septentrionalis* (darling plum), and *Guapira discolor* (blolly). Some individual plants were so heavily cropped as to be almost unrecognizable. Iguanas have been seen up in the taller branches of blolly and darling plum, where they can reach new growth; their weight eventually bends the treetops to the ground,

allowing the animals to “step off” after having eaten their fill. Both blolly and darling plum produce fleshy fruits that are probably eaten as soon as they are ripe. Their hard seeds are not digested, resulting in favored conditions of dispersal for these species (scats provide fertilizer and humus).

The foliage of other species shows no sign herbivory; these species produce fruits of large size, or small fruits in large quantities, and include the palms: *Coccothrinax argentata*, *Thrinax morrisii*, *Pseudophoenix sargentii*, and two of the most abundant hardwood trees, *Casasia clusiifolia* (seven-year apple), and *Manilkara bahamensis* (wild dilly). The other principal woody species is *Conocarpus erectus* (buttonwood), which does not appear to be browsed; its small woody fruits are designed for wind and water dispersal. Buttonwood may be unaffected by the iguana population; it thrives in harsh conditions and is widespread in the Bahamian region. ✎

Plant list is based on surveys by R. Ehrig, March 20—26, 1990 and May 15—20, 1990 and R. Moyroud, March 19—25, 1992.



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Allan's Cay Iguana on U-Cay, male and female. *Photography: Richard Moyroud*