

**HUMAN SKELETAL REMAINS FROM
LIGNUMVITAE KEY**

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HUMAN SKELETAL REMAINS FROM LIGNUMVITAE KEY BURIAL MOUND,
MONROE COUNTY, FLORIDA

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Lignumvitae Key burial mound, 8M013, in the Florida Keys is a unique site that offers insights into the precontact keys occupants' life style. The skeletal recoveries are meager but the potential for research makes the site worthy of note. Utilization of meager fresh water resources is deemed crucial to keys occupation. Key's geology is quite different from other mainland south Florida aboriginal habitats.

Natural Environment

Geology

Lignumvitae (Lig. num. vi. te) Key (Figure 1) is located in Monroe County, Florida, off the Overseas Highway, that leads to Key West, Florida. It is on the Florida Bay, side of Islamorada Key at mile marker 78.5 (M4 78.5 starting from Key West) and accessible only by boat. At 24° 54' north latitude it practically straddles the Tropic of Cancer (23° 30' north latitude). Its proximity to this dividing line between tropical and temperate zones and the effect of the nearby Gulf Stream make the climate subtropical and completely frost free. It is a Pleistocene limestone key with an elevation of 18 feet above mean sea level, along with Windley Key (MA80), the highest elevations in the keys. The average elevation of the other keys is seven or eight feet above mean low tide. Its position, shielded by larger keys on the Atlantic Ocean side and its elevation may have made it one of the most desirable places in the keys for aboriginal occupation. It is protected from storm surges that occasionally wash clear across other lower keys (Goggin and Sommer 1949; Juntro 1975:127). In addition, the presence of nearby Indian Key Channel connecting the Atlantic Ocean side to Florida Bay provided abundant fishing (Goggin 1946:6; Juntro 1975:4).

The Key gets its name from the Holmwood Lignum Vitae (wood of live) trees (*Guaianum sanctum*) that grow 10 feet tall on the virgin hammock (Brockman 1968). The wood, among the densest in the world (Gibbons-Jumins 1996), is so dense it does not float. It weighs 88 pounds per cubic foot compared to salt water at 64 pounds per cubic foot.

Hydrology

Lignumvitae Key presently is a 280 acre State Botanical Site located within the boundary of the Florida Keys National Marine Sanctuary. It constitutes one of the last remaining virgin stands of natural vegetation (Alexander and Crook

1984:205). The key contains a 12,000 gallon cistern to provide fresh potable water to the present occupants. The precontact Indians had no such luxury. In any occupation of the keys, the assured availability of a potable water supply had to be of critical importance. Still their successful occupation of the keys, based on recovered pottery samples (Goggin 1944:15; Goggin and Sommer 1949), demonstrates that they must have known how to dig wells to locate and utilize the fresh water lens that forms on keys as it does on similarly situated Pacific island coral atolls (Carr and Fay 1990:6). This fresh water lens accumulates from rainfall percolating down to the water table where it "floats" on top of the denser saline water table layer beneath it, depressing it into a cross-sectional shape of a lens in accordance with the Ghyben-Herzberg equations (Cox 1951; Freeze and Cherry 1979; Reader 1988:13; Fetter 1994). The equations describe the ability of the fresh water to exclude the salt water intrusion into the lens thus making potable water available to the key occupants without which the keys would have been uninhabitable. If fresh water is extracted from the lens faster than it can be replaced with rainfall, salt water will intrude into the lens producing brackish water, unsuitable for drinking. Annual rainfall rates could prove to be a rough measure of the maximum sustainable population a key or atoll could carry based on naturally occurring potable water.

Archaeology and History

Archaeology

The Florida Keys are subsumed under a distinct subregion of south Florida referred to as the Tequesta Region (Griffin 1974:342) or Everglades Region (Milanich 1994:277,360; Wheeler 2000:10) whose occupants are observed to have shared a common material culture. In southern Florida, archaeologists define cultural areas based on shell artifact characteristics, settlement patterns, ceramic and projectile point typologies, etc. (Keeagan 1992:93). An extensive data base has accumulated over the last 100 years that allow anthropologists to compare sites in the region.

For the same purpose, physical anthropologists look at human skeletal characteristics. The different data base accumulated by osteologists, though it is smaller, most likely will distinguish different boundaries based on the human skeleton's physical attributes. While this is a small site (N=3), its addition to the already limited osteological data base should