



Mosquito Control Handbook: Faunal Zones of Florida ¹

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The demarcation lines between the faunal areas of Florida have been variously placed by investigators, depending usually on the animal group with which they worked and its ties with the terrain. Howell's (1932) lines are based on the distribution of mammals, birds, trees and shrubs - probably the widest biotic spectrum used by anyone. These lines are an excellent fit, by most standards, if Florida is to be divided into three zones: Louisianian, Floridian and Tropical.

His northern limit for the Tropical area agrees quite closely with the accepted climatological definition: where the mean temperature of the coldest month is 18°C (64.4° F) and the winter is dry (Kppen and Geiger 1936). However, the great number of plants (Simpson 1920 lists 43 species of tropical trees on Merritt Island) and animals (cf. Schwartz 1888) of West Indian affinity which reach their northern limits near Cape Canaveral and Charlotte Harbor, together with the great uniqueness of the Florida Keys, leads us to consider only the Keys as tropical, with the crescent from Cape Canaveral around Lake Okeechobee to Charlotte Harbor as subtropical.

We thus divide Florida into the four faunal areas described below (Figure 1).

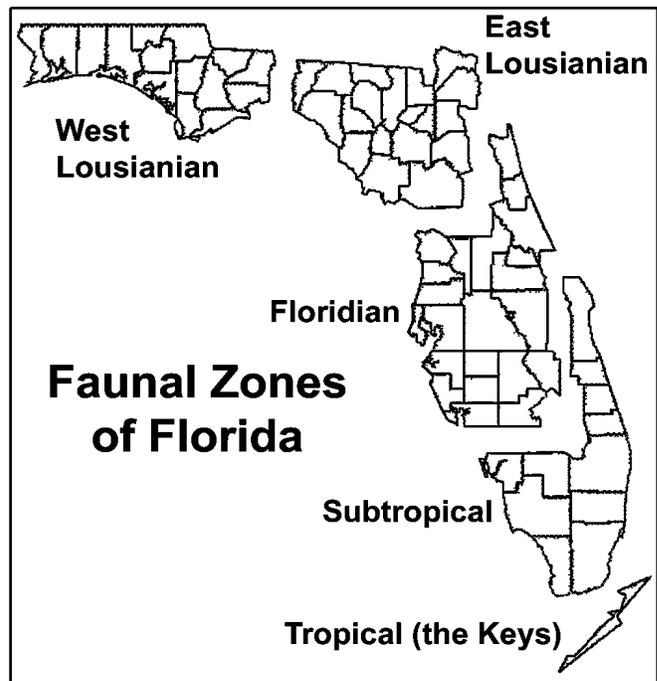


Figure 1. The four Florida faunal areas.

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Louisianian Zone

The Louisianian area includes west and north Florida, down to approximately the 58°F January isotherm. This southern limit is somewhat below Howell's line. Within this area, frosts are an annual phenomenon and summer winds are predominantly southwest. The Louisianian also includes all the land which has been continuous with the continental mainland throughout the glacial epochs of the Pleistocene (Cooke 1939). The faunal area extends into Georgia and Alabama and on out to Texas. Both its climate and its biota are continental, with none of the insular characteristics of the peninsula to the south.

Floridian Zone

The Floridian faunal area comprises central Florida from the above-described line down to approximately the 64°F January isotherm. It should include a considerable area south of Lake Okeechobee, but because climatological data are too sparse to define a line and because county lines do not accommodate themselves to such a bulge (most mosquito records being tabulated by county), we have carried the southern limits of the Floridian area to Lake Okeechobee only. In this area frosts occur on an average of one every other year. The summer winds here (as in the Subtropical and Tropical areas) are prevailing southeast. Cold waves and frosts occur apparently just often enough to exclude the great majority of tropical trees.

The Subtropical Zone

The Subtropical faunal area is the crescent of mainland Florida from Cape Canaveral around Lake Okeechobee to Charlotte Harbor. Frosts in this area are occasional only, permitting a considerable number of tropical trees and bushes to become established. Although many of the plants and animals of the areas to the north of it thrive in this Subtropical area, it is readily distinguished by its copious admixture of tropical, West Indian trees, bushes, introduced flowering plants, birds, mammals, mollusks, crustaceans, insects and so on. It is an obviously transitional area.

Tropical Zone

The Tropical faunal area includes the Florida Keys only. This is the only frost-free area in the United States. It is south of the 70°F January isotherm. Its winds are prevailing east. It is much drier than the Florida mainland. And it is the only place in the United States where living coral reefs occur. In both flora and fauna there is a very great West Indian element. The area is distinct enough from the rest of Florida or the United States to be very obviously tropical, and, as such, it is a faunal area belonging to the great Neotropical region of Wallace.

Florida Mosquitoes

Florida's 67 (1974) mosquito species are predominantly nearctic forms. Twenty-four species find their southern limits in Florida and 17 their northern limits. Roughly 60 percent of our mosquitoes are of nearctic origin and 40 percent of neotropical. Most faunistic and floristic studies of Florida as a whole have concluded that the ratio of tropical to nontropical origin is not too far removed from 50-50.

The following map shows the regions of the Florida Mosquito Control Association (Figure 2).

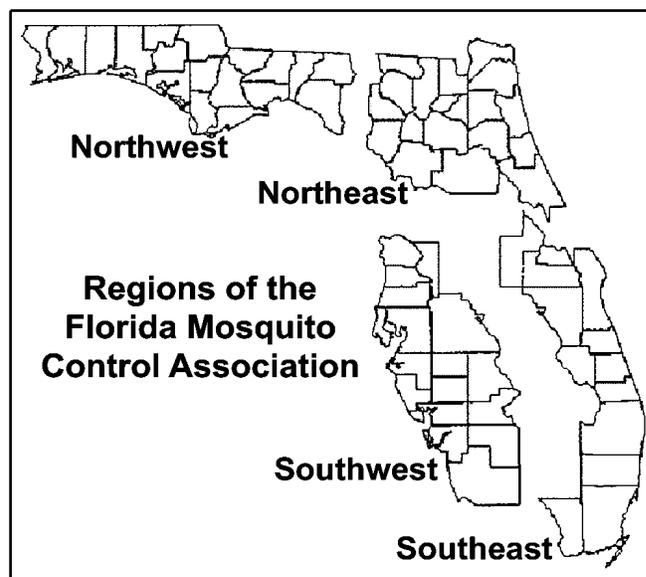


Figure 2. Regions of the Florida Mosquito Control Association

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