We studied the morphology of the adult paramphistomid fluke *Chiorchis fabaceus* Diesing (Trematoda: Digenea) that parasitizes the intestinal tract and caecum of the West Indian Manatee *Trichechus manatus* Linnaeus. More than 1000 fluke specimens were collected between 1980 and 1999 from 22 manatees in Puerto Rico (11), Cuba (1), the Dominican Republic (1), Mexico (1), and Florida (USA) (8). Twenty-seven measurements were taken from each specimen and their morphologies were compared. We observed morphological variability among specimens from the different geographic regions. *Chiorchis fabaceus* from Florida manatees had morphological characters similar to those previously described, with flattened ventral and convexed dorsal body surfaces, deeply 4-lobed testes, and a small excretory pore located dorsal or anterodorsal to the ovary. Flukes from manatees in the other geographic regions differed in these characters with the body slightly more rounded, lobed testes varying from spherical to irregular in shape, and lacking an excretory pore. Flukes from the intestine of a manatee from Cienaga de Zapata, Cuba, were described in 1989 as a new species, *C. groschafti* Coy-Otero, and differentiated from *C. fabaceus* in testes shape, acetabulum size, and the position of the genital pore. The morphological characters of these paramphistomid flukes from Puerto Rico, the Dominican Republic, and Mexico more closely resemble the description of *C. groschafti*, supporting the distinction of two separate species of *Chiorchis* from the West Indian Manatee.