

ABSTRACT

A Comparison of Biological Aspects of *Gambusia puncticulata* (Poey 1854) in White River and Rio Pedro, Jamaica

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The comparison of aspects of biology of *Gambusia puncticulata* (Poey, 1854) in White River and Rio Pedro Jamaica is an important study as *Gambusia* is the most prevalent native fish and yet little is known of its life history. Little sampling was done in the rainy months. Results show that female *G. puncticulata* in White River are longer than Rio Pedro females. Males are smaller than females showing sexual dimorphism. Length weight relationships were assessed using linear regressions and condition factors. Regression analyses show that White River males, females and Rio Pedro males show isometric growth. Rio Pedro females show allometric growth. Isometric and allometric growth was determined by comparing the regression coefficients with the cube law. Fulton's and Le Cren's condition factors both indicate that White River male and female populations were in better condition than Rio Pedro *G. puncticulata* male and female populations. Females show higher condition factors than males. *G. puncticulata* body forms differ in White River from Rio Pedro. Rio Pedro female

G. puncticulata are more streamlined than White River female *G. puncticulata* despite low flow conditions in Rio Pedro. White River females are more alike where streamlining is concerned while Rio Pedro females vary widely. Based on sexual dimorphism, male and female morphometric ratios differ. Females generally have deeper bodies and are stockier. White River *G. puncticulata* showed greater percentage occurrence of diet components. Spearman's rank correlation indicated that there were no differences in diet composition between White River and Rio Pedro populations. Major food categories include detritus, plant material, diatoms, terrestrial hymenoptera, unidentified exoskeleton and trichopteran larvae.

Keywords: Renaldo Ricardo Douglas; *Gambusia puncticulata*; length weight relationships; condition factors; morphometric ratios; dietary analysis; White River; Rio Pedro, Jamaica