

# Physical Attributes and Clutch Size of the Daggerblade Grass Shrimp, *Palaemonetes pugio*, in Three Coastal Waterways of Savannah, Georgia

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**Abstract.** The daggerblade grass shrimp, *Palaemonetes pugio*, inhabits estuaries along the East and Gulf coasts of the United States, is a link between trophic levels, and is exposed to varying environmental conditions within these coastal habitats. The purpose of this study was to determine the relationship between shrimp length, weight, and clutch size at 3 estuarine locations in Savannah, Georgia. The study was conducted from August to October 2014 at Moon River, Country Club Creek, and Wilmington River. Male and female shrimp were collected by dip net twice a month during low tide. Length and weight were measured and clutch size was recorded for ovigerous females. There was a consistent ordinal rank in attributes among sites. Mean length was  $29.22 \pm 4.08$ ,  $27.06 \pm 2.39$ , and  $24.43 \pm 2.90$  mm at Country Club Creek, Wilmington River, and Moon River, respectively. Mean weight was  $235.21 \pm 105.03$  mg at Country Club Creek,  $177.76 \pm 48.93$  mg at Wilmington River, and  $136.14 \pm 51.93$  mg at Moon River. Largest mean clutch size was  $172.49 \pm 46.41$  eggs/female at Country Club Creek, followed by  $140.74 \pm 39.99$  eggs/female at Wilmington River, and  $106.95 \pm 33.83$  eggs/female at Moon River. Trematode abundance ranged from 0-113 cysts/shrimp. Shrimp at Country Club Creek had the greatest average weight, length, and clutch size, while shrimp at Moon River had the lowest. Further research will include analyzing sediment and shrimp tissue to determine if there is any correlation between polycyclic aromatic hydrocarbon concentration and *P. pugio* clutch size.