

البحث الثاني: (منفرد)

**Title:** Length-Weight Relationships and Monthly Variations in Body Weights and Condition Indices of Two Clam's Species, *Venerupis aurea* and *Tapes decussata* (Bivalvia: Veneridae) in Lake Timsah, Suez Canal. Egypt

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**Abstract:**

Both *Venerupis aurea* and *Tapes decussata* are commercially exploited bivalves, and their populations have been severely declining in Lake Timash (Suez Canal, Egypt). Weight-length relationships and monthly changes in body weights and condition in relation to water temperature and gonadal cycle were studied for the two bivalves in this lake. All regressions between body weight and shell length showed higher determination coefficients ( $R^2$ ). Total weight and shell weight of the two clams increased isometrically with length in most months. Both flesh weight and dry flesh weight indicated negative allometric and isometric relationships to length in most monthly samples of *V.aurea* and *T. decussata*, respectively. Body condition was evaluated through three condition indices (CI). Results showed that digestive gland weight of the two species is a good index for body condition. Variations in body weights and the condition indices showed no clear seasonal pattern. Changes in gonad weight and condition indices did not appear to be related to temperature fluctuation. However, temperature correlated negatively with flesh weight of *V. aurea* ( $R=-0.717, P<0.05$ ) and *T. decussata* ( $R=-0.826, P<0.0005$ ). Although a non-significant correlation was observed between gonad weight and body condition, a clear decline of  $CI_1$  and  $CI_2$  was found during spawning periods of the two clams. The highest  $CI_2$  value of 3.63 in August 2008 for *V. aurea* and of 3.45 in November 2008 for *T. decussata* occurred as a prelude to major spawning.

**Keywords:** Allometric growth, body weight, condition index, Lake Timsah, monthly variation, Temperature, Veneridae, *Tapes decussata*, *Venerupis aurea*.

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