ALLOMETRIC GROWTH OF N*eritina virginea* (MOLLUSCA: GASTROPODA) IN BRAZILIAN COAST

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Allometry is the study of the relationships between size and shape of organisms. An allometry occurs when a morphological or physiological characteristic property changes in relation to its size. Associations may be ontogenetic or phylogenetic, being the last one important to the study of the life history. The objective of this study was to evaluate the growth of the *Neritina virginea* Linnaeus, 1958 shell in relation to an allometry in three populations distributed along the brazilian coast. The study was carried out in three beaches with distinct substrate characteristics: Camocim (Ceará), Araçá Bay (São Paulo) and Manguinhos (Rio de Janeiro). Random sample were taken between january and july 2019, during low spring tides. The sandflat inhabited by the gastropods was divided into 3 transects each 30 m length perpendicular to the water line, using a quadrat (20x20cm) within which the substrate was dug to a depth of 5 cm, totalizing 15 quadrat per transect and each transects. The individuals were manually colleted. Lenght and width of the shells were mensured with the aid of a digital caliper (precision 0.01mm). For a growth characterization for allometry, the simple regression model $Y = a + bx$, where "a" is the intercept and "b" is the coefficient of slope of the line (allometric coefficient), using the variables shell lenght and shell width. The allometric coefficient was tested using a t test ($\alpha = 0.05$). When the value of $b = 1$ means the shell growth is equal (isometry), when $b < 1$ the shell produces more in length (negative allometry) and $b > 1$ the shell is sharpened more in width (positive allometry). A total of 148 shells were mensured: 18 from Araçá Bay, 33 from Camocim and 97 from Manguinhos. The length of the shell was diferente for all the beaches. At Araçá Bay shell length was 13.96 ± 2.08 mm, followed by Camocim 11.13 ± 1.82 mm and Manguinhos 7.62 ± 1.19 mm. The ratio between the length and the width of the shell provided a linear model through a scatter plot. The growth of the Araçá Bay population was characterized as isometric ($b = 1.05$) not significantly different from 1 ($p = 0.33$). Camocim shells was also characterized as isometric ($b = 0.92$, $p = 0.052$). The Manguinhos population had a growth characterized as negative allometric ($b = 0.86$, $p = 6.6 \times 10^{-16}$) and showed a distinct shell growth pattern from the other two regions, allocating more resources to the growth of the shell (lenght) than to its width. Probably this results are related to substrate differences, biotic and abiotic influences found in each region.