Some aspect of morphometry of *Amphibalanus amphitrite* (Darwin 1854) collected from intertidal zone of rocky shore Karachi

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ABSTRACT

Introduction: A species of acorn barnacle; *Amphibalanus amphitrite* belongs to family Balanidae and commonly known as the purple acorn barnacle, striped barnacle, and rock barnacle. This species is mainly found in warm and temperate waters of the world. These organisms are found on hard natural surfaces common coastal and estuarine such as bedrock, mollusc shells, stones, boulders, and mangrove roots. However, these are also set up on synthetic surfaces such as the pilings, hulls of ships, and seawalls. It can be present in very high abundance on a single object as recorded with over three hundred individuals being recorded on a single oyster.

The different body parameters (shell size, plate height, plate size) are used for the allometric studies of barnacle species but in addition to basal diameter the different size variables have been accounted in the previous studies: opercular valve weight (Crisp and Patel, 1961; Barnes *et al.*, 1963), weight of shell (Barnes and Barnes, 1959, 1961), length of scutum (Petersen, 1966) and soma weight (Barnes and Barnes, 1959, 1961).

Objectives: In the present study, the morphometric relationship was analyzes the morphometric relationship and density per unit area of barnacle specie *Amphibalanus amphitrite.* To determine the linear and volumetric measurement of barnacle specie: *Amphibalanus amphitrite* has been done in relation to variation in adult shell form, plates size, basal diameter. this include difference among specie and size related changes in shape.

Materials and Methods: *Amphibalanus amphitrite* was collected carefully by hand picking of Mangrove roots from Sandspit backwaters mangrove area Karachi Pakistan during October 2021. The sample were immediately stored in 20'c. The specie were identify on the basis of shell structure by following; Rizvi and Moazzan (2006) and Shahdadi et al, (2014); and later for morphometrical relationship. The subsequent measurements of each individual's shell were taken: the width of the basis (WBA), the length of base along carino-rostral axis (LBA), the length of orifice along the carino rostral axis (LOR), the height of carina (HTC), the orifice width (WOR), the rostrum height (HTR) and the average shell wall thickness (TKC).

Results: The shell having six plates and variation in sizes was observed for the individuals of *Amphibalanus Amphitrite* present on pneumatophores. The high abundance (N= 50-65) of variable sizes individuals were observed on a single root (20 cm) of *Avicennia marina*. The basal diameter of shell ranged from 1.0 cm-1.2 cm. The maximum length of the Scutum was 0.7 cm with the 0.4 cm of basal width.

Conclusion: The size of the individuals varied according to number of specimen attached on a mangrove root. These morpho-parameters have continued as significant to be used for an estimate of size distribution and variability for this species.

Keywords: *Acorn barnacle, Sandspit, mangrove root, Balanidae, Scutum*

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