Moprhometric Variations of The Opercular and Marginal Plates of Barnacle Species *Amphibalanus Improvisus* (Darwin, 1854) Collected from Somiani Beach Balochistan, Pakistan

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ABSTRACT

Amphibalanus improvisus generally recognized as bay barnacle, has widely distributed species. Morphometrical relationship has been studied in this barnacle species in relation to variation in adult shell form that includes differences among species, and size-related modification in shape.

Keywords: Barnacles, species, specimens, morphometrical relationship

INTRODUCTION

A species of acorn barnacle of family Balanidae, *Amphibalanus improvisus* commonly known as bay barnacle, has a worldwide distribution as found in various parts of Atlantic Ocean, the Baltic Sea the North Sea, the Arctic Ocean, many parts of the Indo-Pacific and Australasia as likely due to on the hulls of ships that act as a biofouling agent.

A. improvisus is filter feeder species and have six pairs of cirri to capture planktons and organic material floating around. Shell of this species consists of six smooth conical calcareous plates that are white or pale grey in colour. The inter articulation or fused plates ends at rhombic aperture at the top which is internally covered by two hinged plates. The maximum adults size about 10 mm (0.4 inch) in diameter and 6 mm (0.24 inch) in width but sometimes larger and can grow taller (WoRMS (2009). The base is characterized with groove as evident radially.

OBJECTIVES

In the present study, the morphometrical relationship has been done with identification of specie *A. improvises* in relation to adult shell form variation in basal diameter and plates size this include difference among specie and size related changes in shape. The present study designed to identify the species of *A. improvisus* and morphometric relationship in shape, sizes of plates and weight as well as to quantify traits of evolutionary significance by detecting changes in shape and function.

MATERIALS AND METHODS

Specimens were collected from Sonmiani Beach during the months of November, 2021 to February, 2022. In the laboratory, after preliminary morphometric (shell length, basal diameter and weight) observations sample were immediately stored in 70% alcohol. Then later the species were identified by following available taxonomic keys; Shahdadi et al., (2014) and Rizvi and Moazzam (2006); Specimens of allied species of same genus were selected to characterize the variations in shell shape as was evident. The various measurements for each individual shell were observed: the basis length (LBA), width of orifice (WOR), height of carina (HTC),

the height of rostrum (HTR) , thickness of shell wall (TKC), width of the base (WBA), and length of the orifice (LOR) by following Spivey (1989).

RESULTS

The total 60 number of specimens were identified as attached on Molluscan shell. The variations were observed in the length and width of marginal, lateral and opercular plates. The Rostro lateral plates were observed the largest in length as was ranged of (5-13mm). The tergum was smaller in size as compare to scutum length & width (3-6 mm). The basal diameter ranged from (6-11 mm), is an important parameter has been used as an estimate of size among all species of barnacles.

CONCLUSION

The derived morphometric measurements revealed the significant differentiation and accurate measurements between species by using allometric and statistical data.

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