

## Length-Weight Relationship of Demersal Fish from the Eastern Coast of the Mouth of the Gulf of California

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**Abstract:** The present study was performed with the purpose of describing the length-weight relationships for 64 species from 36 fish families of ecological and commercial importance, found at the soft bottom of the continental shelf on the Eastern coast of the mouth of the Gulf of California. The knowing the LWR is important because it provides information on the life history of species and may be an input to the assessment of fishery resources in the region. In this study, the demersal fish were collected during eight surveys aboard a commercial shrimp-trawling boat that operated at depths of 10 to 60 m during the 2005/06 and 2006/07 shrimp fishing seasons. Parameter  $b$  of the model  $W = aL^b$  varied from 1.801 to 3.916, with a mean value of 2.9511 (SD = 0.3574) and fits a normal distribution. We reported 38 new records of the LWR and 10 of larger total length than those reported in FishBase.

**Key words:** Gulf of California, length-weight relationship, growth type, shrimp fishery, demersal fish

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### INTRODUCTION

The shrimp fishery is one of the most important to Mexico's foreign trade. In particular, the area located on the Eastern coast of the mouth of the Gulf of California provides 90% of shrimp catches in the country (García-Caudillo and Gómez-Palafox, 2005). This area is characterized by soft bottoms (mainly sand and mud) (Rodríguez-de la Cruz, 1981a, b) and be a transition zone with the open sea, of high productivity and biodiversity by the influence of lagoons, estuaries (Ortiz-Pérez *et al.*, 2006), the dynamics of water masses from the Gulf of California (Sánchez *et al.*, 1978) and by the confluence of the California Current (Southward), the North Equatorial (Northward) (Wyrki, 1967; Kessler, 2006). Most of the work undertaken within the study area describes catch composition by species as well as the spatial and temporal distribution of the relative abundance of the demersal fish community as a part of by-catch monitoring (Chávez and Arvizu, 1972; Mellado and Findley, 1985; Linares, 1987, 1996; Van der Heiden *et al.*, 1986).

The Length-Weight Relationship (LWR) is an important element in population dynamics and stock assessment (Pauly, 1993; Oniye *et al.*, 2006). This relationship is described by the

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