

Morphometric Relationship of Weight and Length of Cultured Freshwater Snail, *Pomacea patula* (Baker, 1922), at Three Different Life Stages

MANUEL GARCÍA-ULLOA¹ AND MARÍA DEL CARMEN GALLO-GARCÍA

Laboratorio de Ciencias Marinas, Universidad Autónoma de Guadalajara, Miguel López de
Legazpi No. 235, Col. Centro, A.P. 3, Barra de Navidad, Jalisco 48987 México

HERVEY RODRÍGUEZ-GONZÁLEZ AND ANDRÉS GÓNGORA-GÓMEZ

Centro Interdisciplinario de Investigación para el Desarrollo Integral Regional Unidad Sinaloa,
Instituto Politécnico Nacional, A.P. 280, Guasave, Sinaloa 81101 México

JESÚS T. PONCE-PALAFIX

Centro de Investigaciones Biológicas, Universidad Autónoma del Estado de Morelos, México,
Cuernavaca, Morelos 62210 México

Snails from the genus *Pomacea* live in the floodplain of rivers, swamps, and in water canals used for irrigation in tropical zones of the American Continent (Banarescu 1990); they are amphibious and herbivorous, and present some biological characteristics to be suggested as potential species for culture (Mendoza et al. 2002; Ramnarine 2003). There are few snails that are commercially cultured in Trinidad and Guyana (Ramnarine 2004), and Peru (IIAP 2000). The apple snail, *Pomacea patula*, is an edible freshwater mollusk originating from Catemaco Lake (Veracruz, east coast of México), where is locally considered a very important fishery resource but in the past decades catches have declined, almost depleted, mainly by overexploitation and environmental degradation (González-Soriano et al. 1997). Nowadays, *P. patula* is also found in the midcoast of the Mexican Pacific since was introduced almost 30 yr ago (Jaime-Vargas 1992). Most of the information reported for this species is related to its basic biology and ecology (Naranjo-García and García-Cubas 1985; Martínez-García 1989) and there are only few reports about its nutrition under

controlled conditions (Asiain and Olgún 1995; García-Ulloa et al. 2006). In spite of the economic interest in cultivation of freshwater snails for human consumption, there is a lack of basic information about the morphometric characteristics of the *P. patula* species. The application of morphometric relationships in *P. patula* could be a simple alternative to estimate body weight from length measurements at different stages of its life development. The present study analyzes the length-weight relationship of *P. patula* ranging in weight from 0.1 to 66 g when cultured in our lab during nursery, grow-out, and broodstock production phases. This knowledge may simplify management practices in the different culture phases of this species.

Materials and Methods

Data Sampling

Morphometric data of length and weight of *P. patula* were obtained during several studies from 2005 to 2006 in the Laboratory of Marine Sciences (LMS), University Autonomous of Guadalajara, México. Data ($n = 637$) were grouped into three different culture phases based on culture conditions: nursery (0.1–2 g), grow-out (2–20 g), and broodstock production (20–66 g). Three to six snails from each culture

¹ Corresponding author.