

**Maturation and Fecundity in the Queen Conch:
Individual Variability and the Effects of Density**

**Maduración y Fecundidad en el Caracol Rosado:
Variabilidad Individual y Efectos de la Densidad**

**Maturation et Fécondité Chez le Lambi:
Variabilité Individuelle et Effets de la Densité**

RICHARD APPELDOORN and SHAWNA REED
*Department of Marine Sciences, University of Puerto Rico,
Mayaguez, Puerto Rico 00680 USA.
richard.appeldoorn@upr.edu*

ABSTRACT

The queen conch, *Lobatus gigas*, resource is one of the most important in the Caribbean. While aspects of conch reproduction, such as size at maturity and spawning season have been studied, there is little information on other important aspects. Experimental caged conch populations held on a natural spawning ground off southwest Puerto Rico were monitored across the spawning season to evaluate fecundity, its variability across individuals and between density treatments. Daily monitoring allowed all egg masses to be allocated to specific females and to calculate the number of eggs. It was also possible to develop a relationship between % maturity and shell lip-thickness. Within each density treatment, individual fecundity varied by a factor of 6. Conch in the low-density treatment produced more and larger egg masses than those in the high-density treatment. The most productive female produced the most egg masses (25), the most eggs (22 million), the largest single egg mass (1.48 million eggs), and had the longest reproductive season, spawning both the first and the last egg masses during the season. In the low-density treatment there was a significant relationship between lip-thickness and fecundity. These results emphasize the importance of allowing conch to mature and further grow in lip-thickness to ensure sufficient spawning to sustain reproductive capacity. They also suggest that there exist super-spawners – individuals whose output may have a differentially greater contribution to future generations.

KEYWORDS: Queen conch, *Lobatus gigas*, reproduction

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