

**SPONTANEOUS SPAWNING, FECUNDITY AND SPAWNING PERIODICITY IN THE DONKEY'S EAR ABALONE *HALIOTIS ASININA* LINNAEUS 1758**

Armando C. Fermin, Rolando S.J. Gapasin, Myrna B. Teruel

*Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC IAQD) Tigbauan 5021, Iloilo, Philippines*

**ABSTRACT**

Spontaneous group spawning was monitored in wild-caught (WC) and hatchery-bred (HE) abalone broodstock held in duplicate tanks at 1:3 (male: female) ratio from June 1997 to January 1999. Abalone breeders (mean SL, wild = 69-79 mm, HE = 68-71 mm) were kept in perforated plastic baskets and fed red alga, *Gracilariopsis bailinae*, to excess given at weekly intervals. Abalone spawned spontaneously year-round. Water temperature during the study ranged from 26-29 °C. A total of 139 and 128 spawning episodes were recorded for WC and HE group respectively. Spawning in WC group (mean:  $7 \pm 0.8$ ) were more frequent in September (1998) and from February to April. Spawning frequency in the HE group (mean:  $6.4 \pm 1$ ) was generally high during September (1998) until April. Likewise, egg production was highest during these months. Pooled mean survival from trochophore to veligers stage ranged from 7 to 30% (n=36). "Potential" fecundity was determined in sacrificed group of HE females (n=21) varied from 5,741-11,902 oocytes g<sup>-1</sup> BW. Mean oocyte diameter ranged from 136 to 150 μm. Bigger females had higher potential fecundity (range: 6.2 to 11 x 10<sup>5</sup> oocytes individual<sup>-1</sup>) than smaller females (range: 2.8 to 3.3 x 10<sup>5</sup> oocytes individual<sup>-1</sup>). The time interval between successive spawning among animals that spawned more than twice during a 5-month period ranged from 13 to 34 days for the small-size group and from 18 to 37 days for large-size group. In separately stocked HE females (without male), "instantaneous" fecundity was shown to range between 1,500 and 12,300 eggs g<sup>-1</sup> BW (n=1-6). In contrast to potential fecundity, smaller and younger individuals gave higher mean instantaneous fecundity (range: >3,000->12,000 oocytes g<sup>-1</sup> BW) than the bigger and older individuals (1,500-6,500 oocytes g<sup>-1</sup> BW).