

Charuay Sukhsangchan 2009: Behavior and Life History of Paper Nautilus (*Argonauta hians* Lightfoot, 1786) in the Andaman Sea, Thailand. Doctor of Philosophy (Marine Science), Major Field: Marine Science, Department of Marine Science. Thesis Advisor: Associate Professor Shettapong Meksumpun, Ph.D. 127 pages.

Argonauta hians were collected as bycatch of purse-seiners and from local fish markets around the Andaman Sea, Thailand. The animals were distributed between 7° 30' 24" – 8° 13' 22" N and 97° 01' 50" – 98° 55' 48" E. Most of the collected females were mature as evidenced by the presence of fertilized eggs within their shells. Embryonic development was observed in 15 stages. Embryos hatched with a mantle length of approximately 0.6 ± 0.103 mm and went through the planktonic life phase for at least four days. Mantle length-weight relationship in mature females could be expressed as a power regression model, $W = 1.6 \times 10^{-3}L^{2.3827}$, $R^2 = 0.888$. The relationship between mantle length and fecundity in this study was estimated to be $Fe = 267.85ML - 4427.8$, $R^2 = 0.437$, $p < 0.05$, while the relationship between weight and fecundity was estimated to be $Fe = 537.81W + 572.76$, $R^2 = 0.4997$, $p < 0.05$. Length at 50% maturity of *A. hians* was at 20.14 mm, while at 27.5 mm, 100% of the females were mature. The relationship between the proportion of mature female and total number of female followed by length could be analyzed by

$$P_L = \frac{1}{1 + e^{(8.7031 - 0.4321L)}} .$$
 Stomach contents of *A. hians* contained three major groups,

namely crustaceans, cephalopods and fish. *Argonauta hians* cultivation was limited; paralarvae could be maintained for four days only. Cultivation of the adult females was also restricted to one month, although they feed routinely and develop new shell rib. Behavior (locomotion, feeding and defense) of *A. hians* was also studied.

Student's signature

Thesis Advisor's signature