

Egg development of backcrossed hybrid grouper between OGGG (*Epinephelus coioides* x *Epinephelus lanceolatus*) and giant grouper (*Epinephelus lanceolatus*)

ABSTRACT

The hybrid grouper, OGGG is produced from a cross-breed between a female orange-spotted grouper (OG; *Epinephelus coioides*) and a male giant grouper (GG; *E. lanceolatus*). OGGG is an excellent hybrid grouper in Southeast Asia owing to its outstanding organoleptic qualities. GG is the most favorable species in aquaculture industry driven by its notable characteristics. With the purpose of producing a superior aquaculture species, a backcross-breed between OGGGs and GGs was conducted. A sexually matured female OGGG was selected and treated twice with Human Chorionic Gonadotropin (HCG). Subsequently, the stripped eggs were fertilized with preserved sperm of GG and incubated in a circular fiberglass reinforced plastic (FRP) tank. Observation on stripped eggs, egg development and developed time on each egg stage was recorded under microscope. The fertilized eggs were spherical with a mean diameter of $755 \pm 28 \mu\text{m}$ ($n = 20$). The fertilization rate and hatching rate were 23.3 % and 1.5 %, respectively. The hatching time was commenced from 22:40 to 24:40 hours after hatching (hAF). It was undergone normal egg development and successfully survived up to 11 dAH. It is possible to produce backcrossed OGGG and GG and beneficial to the production of hybrid grouper in aquaculture industry.