Reproductive characteristic of Anguilla bicolor McCleland , 1844 which inducted by administration of GnRh Analog

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Author Order	1 of 3
Accreditation	2
Abstract	Eel, Anguilla bicolor McClelland was hard to mature in captivity, due to low levels of pituitary gonadotropin. In order to stimulate gonadal maturation in captivity, exogenous gonadotropin is needed. The purpose of this study was to assess the effect of GnRH-analog induction on gonadal maturation of tropical eel base on the value of the eye index, gonado-somatic index, and estradiol levels. The study was carried out experimentally with a completely randomized design with three treatments and eight replications. The treatments were the induction of hormone GnRH-analogues with doses of 0.0; 0.5 and 1.0 ml kg-1 body weight. Eel with an average total length of 67 cm and an average weight of 500 g were injected with different doses of GnRH-analog (0.0; 0.5 and 1.0 ml kg-1 body weight), kept in the fiberglass aquarium for two months. The eels were fed with discard fish daily in ad libitum at 16.00 pm. The observed variables were eye index, Gonadosomatic Index (GSI), and estradiol levels. The results showed that injection of three different doses of GnRH-analog did not affect on the increasing of GSI, eye index (P> 0.05), and estradiol (P <0.05). Induction of GnRH-analog of 0.0; 0.5 and 1.0 ml kg-1 body weight can not stimulate the gonadal maturity of tropical eel. Abstrak Ikan sidat Anguilla bicolor McClelland sulit matang gonad dalam kondisi budi daya, karena rendahnya kadar gonado-tropin pituitari. Oleh karena itu untuk memacu pematangan gonad ikan sidat dalam kondisi budi daya perlu ditambah-kan gonadotropin secara eksogen. Tujuan penelitian ini adalah mengkaji pengaruh induksi GnRH-analog terhadap pe-matangan gonad ikan sidat berdasarkan perubahan nilai indeks mata, indeks kematangan gonad (IKG), dan kadar estradiol. Penelitian dilakukan secara eksperimental menggunakan rancangan acak lengkap dengan tiga perlakuan dan delapan ulangan. Perlakuan percobaan terdiri atas induksi hormon GnRH-analog dengan dosis 0,0; 0,5 dan 1,0 ml kg-1 bobot badan. Ikan sidat dengan rata-rata ukuran panjang 67 cm dan rata-rata bobot 500 g sebanyak 18 ekor yang telah diinduksi dengan berbagai dosis GnRH analog (0, 0,5 dan 1 ml kg-1 bobot badan) dipelihara dalam akuarium fiberglass selama dua bulan. Pakan berupa ikan rucah diberikan satu kali sehari pada pukul 16.00 secara ad libitum. Variabel yang diamati adalah indeks mata, IKG, dan kadar estradiol. Hasil penelitian menunjukkan bahwa induksi hormon GnRH-analog tidak berpengaruh terhadap peningkatan nilai indeks mata, nilai IKG (p>0,05), dan kadar estradiol ikan sidat (p<0,05). Induksi hormon GnRH-analog dengan dosis 0,5 dan 1 ml kg-1 bobot badan tidak efektif memacu pematangan gonad ikan sidat.
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