ABSTRAK

Logam berat kadmium di perairan pada umumnya mempunyai sifat toksik dan berbahaya bagi organisme hidup, walaupun beberapa diantaranya diperlukan dalam jumlah kecil. Cd merupakan logam berat yang sangat berbahaya karena tidak dapat dihancurkan (*non-degradable*) oleh organisme hidup dan dapat terakumulasi ke tubuh organisme melalui rantai makanan. Tujuan dari penelitian ini adalah mengetahui pengaruh Cd pada reproduksi ikan nilem (*Osteochilus hasselti* C.V) jantan. Prosedurnya hewan uji disimpan di empat bak fiber yang mengandung Cd dengan kadar (0 mg/L [kontrol]; 2 mg/L [rendah]; 4 mg/L [sedang]; 6 mg/L [tinggi]) selama 4 minggu. Dampak dari Cd terhadap reproduksi ikan nilem dievaluasi dengan tingkat ekspresi gen cGnRH-II. Hasil penelitian menunjukkan bahwa pengaruh perlakuan kadmium selama 4 minggu terhadap nilai ekspresi gen cGnRH-II memiliki kisaran rata-rata antara 0,0036 - 0,3470. Pengaruh perlakuan selama minggu ke-2 dan ke-4 tidak memberikan pengaruh yang signifikan (P>0,05) dalam menurunkan nilai ekspresi gen cGnRH-II pada ikan nilem jantan, seiring dengan meningkatnya konsentrasi kadmium serta lamanya waktu pemaparan.

Kata kunci : *Kadmium, Ekspresi Gen cGnRH-II, Ikan Nilem Jantan*.

ABSTRACT

The heavy metal of cadmium in water generally has toxic properties and is dangerous for living organisms, although some of it is needed in small amounts. Cd is a heavy metal that's is very dangerous because it cannot be destroyed (non-degradable) by living organisms and can accumulate in the organism's body through the food chain. To investigate the effect of Cd on male silver sharkminnow fish (*Osteochilus hasselti* C.V) reproduction, the test animals were stored in four fiber tanks containing Cd at levels (0 mg/L [control], 2 mg/L [low], 4 mg/L [medium], 6 mg/L [high]) for 4 weeks. The impact of Cd on silver sharkminnow fish reproduction was evaluated by the expression level of the GnRH-II gene. The results showed that the effect of cadmium treatment for 4 weeks on the expression value of the cGnRH-II gene had an average range between 0.0036-0.3470. The effect of treatment during week 2 and 4 didn't have significant effect ($p>0.05$) in reducing the value of cGnRH-II gene expression in male silver sharkminnow fish, along with increasing cadmium consentrations.

Keywords: *Cadmium, cGnRH-II Gene Expression, Silver Sharkminnow Fish, Males*