Efek kuning telur terhadap kualitas spermatozoa dan persentase fertilitas telur ikan botia (Chromobotia macrachanthus Bleeker 1852) yang dibuahi spermatozoa pascakriopreservasi = Egg yolk effect on sperm quality and fertilization rate of botia egg (Chromobotia macrachanthus Bleeker 1852) fertilized by post cryopreserved

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Abstrak

ABSTRAK
Penelitian kombinasi konsentrasi kuning telur sebagai krioprotektan belum pernah dilakukan pada ikan Botia (Chromobotia macrachanthus). Penelitian menggunakan konsentrasi kuning telur sebagai krioprotektan ekstraseluler dan metanol 10% sebagai krioprotektan intraseluler. Konsentrasi kuning telur (0%, 5%, 7%, 9%, 11%, 13%, 15%, 17%) dan penggunaan Carboxymethyl Cellulose (CMC) 1% terhadap motilitas, viabilitas dan abnormalitas spermatozoa ikan botia 24 jam pascakriopreservasi. Preservasi dilakukan pada tabung nitrogen cair dengan suhu -196°C. Berdasarkan hasil uji ANAVA satu arah menunjukkan pemberian berbagai konsentrasi kuning telur berpengaruh nyata (p<0,05) terhadap persentase motilitas, viabilitas, dan abnormalitas spermatozoa ikan Botia 24 jam pascakriopreservasi. Konsentrasi kuning telur optimum ialah 15%, dengan nilai persentase motilitas (96,43 ± 1,49%), nilai persentase viabilitas (84,25 ± 1,26%) serta nilai persentase abnormalitas terendah (11,50 ± 1,29%). Uji Tukey persentase nilai fertilitas telur 24 jam pascakriopreservasi tertinggi pada konsentrasi kuning telur 15% (50,64 ± 4,37%).
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ABSTRACT
The combination effect of egg yolk and 10% methanol on Botia fish spermatozoa quality and has not been performed, yet. Accordingly, the objrctive of study was: first, to evaluate the motility rate, viability rate, and abnormality of Botia fish spermatozoa 1 day after cryopreservation. Second, to evaluate the fertility rate of Botia fish egg after fertilized by cryopreserved sperm. The various concentration of egg yolk used were, 5%, 7%, 9%, 11%, 13%, 15%, and 17% whereas the negative control (0%) used 10% methanol only without egg yolk. While, the positive of control used 1% of CMC. Botia sperm and egg were collected by hand stripping method. Physical and chemical of botia sperm had been observed by visual observation whereas the otility rate, vuiability rate, abnormality rate and fertility rate determined by light microscope. Botia fish sperm were mixed with cryoprotectand and extender before freezing at -196℃ (in LN). cryopreservation of botia fish sperm were conducted for one day. Based on one-way ANOVA test, gave the significant different between treatment group and control. Furthermore, according to Tuket test, they were gave the significant different (P<0.05) also among treatment group. Fifteen percent of egg yolk was optimum concentreation

that gave the highest motility rate, (96.43 ± 1.49%), and the highest viability (84.25 ± 1.26%) and showed the lowest percentage of abnormality (11.50 ± 1.29%), and also the highest fertility rate of Botia fish egg that (50,64 ± 4,37%) with protected by 15% of egg yolk.