

## Reproduction Characteristics of Rice Field Eel (*Monopterus albus* Zuiew) on Several Functionally Changed Lands in Banyumas Regency

<b>Title</b>	Reproduction Characteristics of Rice Field Eel ( <i>Monopterus albus</i> Zuiew) on Several Functionally Changed Lands in Banyumas Regency
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<b>Abstract</b>	<p>Functional change of agricultural lands into non-agricultural lands will obviously have an impact on the diminished or loss of habitat of the rice field eels (<i>Monopterus albus</i> Zuiew). The aim of this research was to understand the difference between (1) reproduction parameters (fecundity, gonadal maturity level (GML), and gonadal maturity index (GMI); (2) histological features of female and male gonadal development (oogenesis and spermatogenesis); (3) range of body length in each sexual phase; and (4) range of body length in each GML stage of captured eel from 4 sub-districts of Banyumas regency, Central Java (Ajibarang, Sumpuh, Banyumas, and Sumbang). The total number of captured subjects were 631 eels; which consisted of 155; 227; 157; and 92 eels from Ajibarang, Sumpuh, Banyumas, and Sumbang, respectively. We observed oogenesis in the stages of GML-1 (chromatin nucleolar stages and perinucleolar stage); GML-II (cortical alveolar formation stage or globular yolk stage), GML-3 (late globular yolk stage), GML-IV (mature or ripe stage), and follicle atretic stage. Also, we observed male gonadogenesis and spermatogenesis in the intersex. The range of GMI of captured eels was between 0.023 and 0.686. Eel in GML-I, GML-2, GML-3, and GML-IV had GMI within the range of 0.023-0.096; 0.096-0.425; 0.427-0.686; and &gt;0.686, respectively. Eels achieved stage of GML-IV in body length range of 22.6-34.5 cm in Sumpuh, 22.6-38.5 cm in Ajibarang, and 26.6-34.5 cm in Banyumas. There was no eel with the status of GML-IV in Sumbang, which had the most residential or functionally changed lands in its area. Based on these findings, can be concluded that the condition of rice fields or habitat of eel in functionally changed lands may affect eel's growth and gonad maturation.</p>
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