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Visual thresholds for feeding and optimum light intensity for larval rearing of Asian seabass, *Lates calcarifer* (Bloch) (Article)Mukai, Y.<sup>a</sup> Lim, L.S.<sup>b</sup><sup>a</sup>International Islamic University Malaysia, Institute of Oceanography and Maritime Studies (Inocem), Kulliyah of Science, Kuantan, Malaysia<sup>b</sup>Universiti Malaysia Sabah, Borneo Marine Research Institute, Kota Kinabalu, Malaysia

## Abstract

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This study examined the retinomotor responses and prey ingestion rates of 10-, 15-, 20- and 30-day-old Asian seabass *Lates calcarifer* under different light intensities from 0 to 1000 lx to determine the visual thresholds. Subsequently, two age groups of seabass larvae were reared under light intensities of 10, 100 and 1000 lx to determine the optimum illumination in hatchery tanks. Retinomotor response was absent in 10-day-old larvae, but quite marked in 15- and 20-day-old seabass at 1 lx and higher. Ingestion of *Artemia nauplii* by 10-day-old larvae was almost zero at <1 lx, increased significantly at 1 lx, and was maximal at 10-100 lx. *Artemia* ingestion under dim light <1 lx improved with age, and older larvae took more prey in complete darkness due to the presence of rod cells (and also free neuromasts). Larvae from 13 to 26 days group had similar survival and growth at 10-1000 lx, however, from 5 to 10 days group showed similar survival rate with highest weight gain at 100 lx. Therefore, we recommend that hatchery rearing tanks be illuminated such that the larvae in the water are exposed to approximately 100 lx. © 2012 John Wiley & Sons Ltd.

## Author keywords

Asian seabass Feeding behaviour Larval rearing Light intensity Visual threshold

## Indexed keywords

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