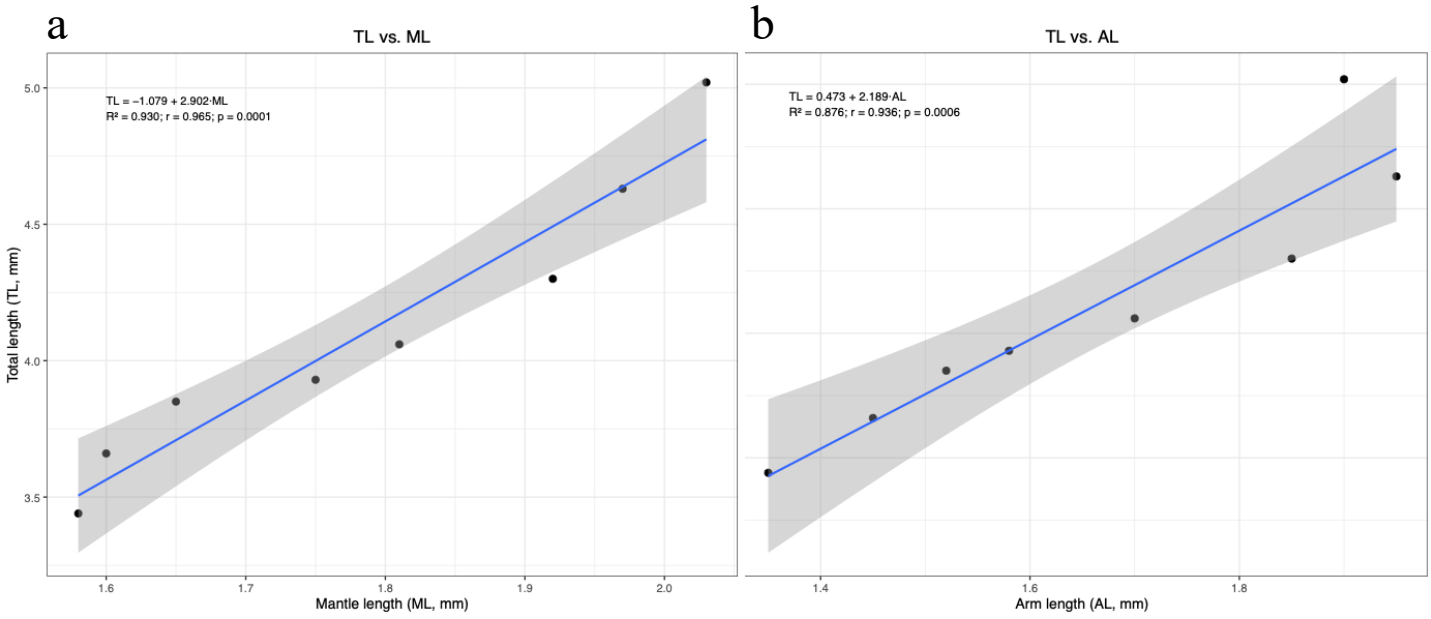


**Supplementary Figure S1.** Custom-designed refuge structure used for egg incubation of *Amphioctopus kagoshimensis*. The device consisted of three interconnected polyvinyl chloride (PVC) buckets (15 cm × 40 cm each) bound together with mesh-covered openings to allow water exchange while preventing egg loss. Adult females deposited and guarded egg masses within the internal chambers under controlled laboratory conditions.




**Supplementary Figure S2.** Relationships between total length (TL) and mantle length (ML) (a), and between total length (TL) and arm length (AL) (b) of *Amphioctopus kagoshimensis* paralarvae during 1–30 days post-hatching (dph). Each plot shows linear regression lines with 95% confidence intervals. Analyses were performed in R (v4.2.2); regression equations and $R^2$ values are indicated on each panel.