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Contribution to the study of the reproduction of three aspidochirotid holothurians (Echinodermata: Holothuroidea) inhabiting the *Posidonia oceanica* meadow of two contiguous areas: La Marsa and Ain Taggourait (Algeria)

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Aspidochirotid holothurians have a considerable ecological role in the chain of decomposition of the *Posidonia oceanica* ecosystem of the Mediterranean sea by their capacity of recycling of the organic matter. A total of 128 individuals of *Holothuria (Holothuria) tubulosa*, *Holothuria (Lessonothuria) polii* and *Holothuria (Platyperona) sanctori* were sampled at 5m depth, from March to September 2011, in two stations: La Marsa (polluted area) and Ain Taggourait (unpolluted area). The evolution of the diameter of the female gonadic tubules of *H. (H.) tubulosa* shows a maturation beginning in March and reaches a maximum in May. The diameter of the gonadic tubules of the males shows a decrease in April and then a progressive increase until July. For *H. (L.) polii*, the male gonadic tubules showed decreases of their average diameter during May and then an increase until July. The evolution of maturation was continuous throughout the study period for the female. The gonads maturation of the males of *H. (P.) sanctori* undergoes the same diagram as for the others species with a decrease of the diameter of the gonadic tubules in April and a progressive recovery. The females maintained the diameter of their tubules constant until June, follow-up thereafter by a fast maturation in July.

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