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Mating In the Indian Squid *Uroteuthis duvaucelii* (cephalopoda: Loliginidae) From the Tropical Arabian Sea

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The Indian squid *Uroteuthis duvaucelii* (D'Orbigny, 1835) is the most important commercial species of squid caught from the Indian Seas. Sperm transfer is a complex process in cephalopods, with males transferring intricate spermatophores to females during mating. However, nothing is known about the mating and sperm transfer behaviour of *U. duvaucelii* from the tropical Indian waters. Spermatangia implantations were tracked over the buccal membrane of 14 females and one male Indian squid *Uroteuthis duvaucelii* from the Arabian Sea during February and March 2021. The size of mated female individuals ranged from 110 to 160 mm dorsal mantle length (DML). The numbers of spermatangia in the buccal region range from 64 to 385 (mean=178). The length of the spermatangia ranged from 0.66 to 1.35 mm (average=0.89 mm) and the maximum width ranged from 0.14 to 0.23 mm (average=0.19 mm). Based on the statolith based age estimation, the age of the mated squid ranged from 98 to 148 days. Normally spermatophores are transferred to the buccal region of females by males during copulation, but strangely, a male buccal membrane was observed with spermatangium (n=254), which is evidence of same-sex (homosexual) mating behaviour in the Indian squid. Back-calculated hatching dates for the squids were from September 28th 2020 to 28th November 2020. The present observations give evidence for pre-monsoon mating for the species in the tropical Arabian Sea. Furthermore, we recommend a detailed study on reproductive biology for a complete understanding of the mating behaviour of loliginids in the Arabian Sea.

Keywords : Indian Squid, Statolith, Age And Growth, Homosexual