

## ABSTRACT

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- Choreography of the Squid's "Nuptial Dance".

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A mass spawning of squid resembles, at first glance, a chaotic “nuptial dance”(1). But for the first time, we have applied 3-D, radio-linked acoustic positioning (RAP) to this confused process, and our early results now reveal a choreography that is, in fact, well organized in time and space. Remote tracking with RAP of individual *Loligo vulgaris reynaudii* off South Africa has provided insights into the daily sequence of behaviors that lead these animals to aggregate for sexual selection. Each dawn, the squid navigate for several kilometers, towards the shore, to small, well-defined zones near egg beds on the substrate. After several hours of circling above these egg beds, a pelagic, 3-D lek-like aggregation of large males forms; females are drawn in, and the aggregation condenses as females and males pair, mate and lay eggs. Smaller “sneaker males” remain on the periphery of the mating arena and, from this station, attempt extra-pair copulations (EPC’s). The mating system of squids is thus unexpectedly complex, rivaling those mammals and birds (2,3). Commercial squid-jigging fishermen in South Africa have recently been attracted to the spawning grounds, and they have been successful. Moreover, their activities may be selective for large males. Thus, attention should be devoted to ensuring that such targeted fishing does not alter the characteristics of squid population genetics. Remote tracking and video observations, in combination with genetic analysis, may offer a new opportunity to monitor mating efforts and reproductive success, and thus to manage the fishery.