

## ABSTRACT

**O'DOR, R.K., SAUER, W.H.H., ROBERTS, M.J. and SMALE, M.J.(1995)**

**High resolution, 3-D tracking of squid on spawning ground with radio-acoustic positioning.**

**In Proc. 13th Int. Symp. Biotelemetry.  
Cristalli, C., Amlaner, C.J. and Neuman, M.R. (Eds)  
Fayetteville; University of Arkansas Press: 193-198.**

A four-buoy Radio-Acoustic Positioning (RAP) system using new software to solve 3-D hyperbolic equations provided real-time tracks, onshore, of squid swimming at speeds up to  $0.5 \text{ m.s}^{-1}$  in fished concentrations above egg beds 4 km offshore. Large males (32 cm mantle length), females (21 cm mantle length) and small "sneaker" males (15 cm mantle length) concentrated diurnally, returning for up to one week. Positional accuracy of 1-2 m resolved stereotypical courtship behaviours suggesting a lek. RAP applications to behavioural research are discussed.