

Session A18: Reproduction, Recruitment and Effects of Stress on Reproductive Success of Corals and Other Reef Invertebrates**MASS SPAWNING OF *ACROPORA* IN THE CORAL SEA.**

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The annual synchronous spawning of numerous species of scleractinian corals is one of the most spectacular of natural phenomena. Comparisons available suggest that mass spawning is restricted to regions with large variations in environmental cycles with a progressive breakdown in seasonality and synchrony of reproduction towards the equator. To test this hypothesis we compared the spawning patterns of *Acropora* at 4 locations in the Coral Sea with contrasting environmental cycles. In the Solomon Islands (8° 06 S) mature eggs were found in 28 of the 41 *Acropora* species sampled. Overall 36 % of colonies (n=403) had mature eggs, 6 % had immature eggs and no eggs were visible in the remaining colonies. At Lizard Island (14° 39 S) 15 of 26 species had mature eggs or 62 % of the colonies sampled, while 10 % contained immature eggs. On Orpheus Island (18° 40 S) 19 of 21 species had mature eggs or 72 % of the colonies sampled, and less than 2 % of colonies had immature eggs. In the few widespread species abundant at each of location the proportion of the population fecund declined from Lady Elliot (23° 45) towards the equator, suggesting that degree of synchrony may be less and the reproductive season longer. However, the high proportion of colonies without eggs even in locations where the reproductive season is restricted to the mass spawning period suggests that not all colonies spawn every year. Furthermore, the proportion of fecund colonies in some morphologies is consistently low (e.g. arborescent = 35 %), suggesting that many *Acropora* have more a complicated life history than implied by the paradigm of the mass spawn.