THE EFFECT OF THE DUSK PHOTOPERIOD CHANGE FROM LIGHT TO DARK ON THE TIMING OF HATCHING OF EGGS OF THE ROSEY SPOTTED SNAPPER (Lutjanus guttatus).

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INTRODUCTION

The eggs of rosey spotted snapper (Lutjanus guttatus) have been observed to hatch at dusk or sun set. Induced spawning can change the diurnal spawning rhythm or the time of spawning, this in combination with a fixed hatching time could alter the time for embryo development and cause poor larval quality. This study examined photoperiod and hatching of L. gutatus eggs.

METHODS

Table 1. Experimental regimes (S=spawning time)

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<thead>
<tr>
<th>Exp. Group</th>
<th>Tab. 1 Photoperiod: black = night, white = day</th>
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<tbody>
<tr>
<td>Exp. 1</td>
<td>14-18, 20-21, 22-24, 50-60, 1-6, 6-14, 14-18, 20-22</td>
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<tr>
<td>Exp. 2</td>
<td>1, 2, 4, 14, 18, 22</td>
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RESULTS and DISCUSSION

In study 1a the eggs were observed under all photoperiods to initiate hatching between 19-20 hours after spawning and finish by 22 hours after spawning. In study 1b all eggs in photoperiod treatments started hatching 18-20 hours after spawning and finished 21 hours after spawning.

There was more variation in hatching times in Exp. 2, hatching initiated from 16 to 18 hours and finish 19-22 hours. Alterations in spawning time in relation to a fixed hatching time, for example hatching at the dusk, light to dark change in photoperiod could result in insufficient time for correct larval development and poor larval quality. However, photoperiod did not appear to affect hatching time.

CONCLUSIONS

The dusk photoperiod change from light to dark and different spawning times (8pm-1am) did not affect duration of incubation. Generally eggs hatched 18-22 hours after spawning. There was a suggestion that constant light should be avoided for the incubation period as it can result in variable hatch rates.

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