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Testosterone Levels Within and Between Clutches of House Wren (*Troglodytes aedon*) Egg Yolks

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TESTOSTERONE LEVELS WITHIN AND BETWEEN CLUTCHES OF HOUSE WREN (*TROGLODYTES AEDON*) EGG YOLKS

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It has recently been hypothesized that a correlation may exist between the competitive ability of offspring and the amount of maternal testosterone deposited in the egg yolk. If a female is able to influence the competitive ability of her offspring in this way, different levels of testosterone should be detected among eggs in a clutch. This study was undertaken to determine whether testosterone levels in egg yolk vary between eggs within and between clutches of the house wren (*Troglodytes aedon*). Female house wrens are double brooded (i.e. having two nests in a season) and lay one egg per day until their clutch is complete. During the summer of 1994, we collected 160 eggs from nest boxes and froze them. A preliminary testosterone extraction utilizing chloroform was performed on some of the collected eggs and the amount of testosterone was analyzed by HPLC (high-performance liquid chromatography) to determine the procedure's efficiency in extracting testosterone. A separate extraction procedure utilizing 30:70 petroleum ether/diethyl ether is currently being tested for its efficiency. Once a procedure has been found, testosterone will be extracted from the remaining eggs and testosterone levels will be measured by radioimmunoassay. Testosterone levels in each egg will then be compared in order to determine whether there is any correlation between maternal testosterone deposited in the yolk and the order in which eggs in a clutch were laid.