Article summary

Plastic Sex-Roles in the Common Goby: The Effect of Nest Availability (A Summary) This study of Borg, Forsgren, and Magnhagen (105-115) is about theeffects of nest site availability on reproductive behavior in the common goby (Pomatoschistus microps). Common goby is a small short-lived marine fish having a conventional sex role--that with which the male goby builds nests under empty bivalve shells and cares for the eggs--thus, the availability of good nest sites is an important factor for reproduction. The study was conducted to see if there is a change in sex-roles, related to an environmental-induced change in operational sex ratio, utilizing an experimental artificial nest material in the field situation. More specifically, it sought answers to the question raised as: “ Does the availability of nest sites, through an effect on the operational sex ratio, affects courtship and mating competition in the common goby?” Predicted that: when nests are abundant, operational sex ratio (OSR) will become male-biased, promoting active male courtship and competition; if nests are scarce, nest-holding males are expected to become a limiting resource for females, leading to female-biased, where females are expected to be more active in courtship behavior and competition. The researchers investigated by comparing variation in mating competition between two nearby goby-nesting bays on the Swedish west coast without geographical barriers: bay1 (the manipulated location) was controlled by increasing the nest site availability in the field through adding potential nest material (half clay flowerpots) that served as bivalve shells; bay2 (the unmanipulated location) remained constant without induction of control. Each day, artificial and natural nests that had been occupied over night and nested were observed, as well as the frequencies of male-female, male-male, and female-female interactions, both in

manipulated and unmanipulated bays. As predicted, the study resulted to the following: (1) Net occupation was lower in nest excess bay than in bay with nest shortage; (2) Overall egg occurrence both in artificial and natural observed nests were lower in nests were in excess compared to where nests were scarce; (3) Courtship behavior was observed more in bay with nest excess than in bay with nest shortage; (4) Interactions between females were observed in the nest shortage bay only; and (5) Visitors of both sexes were seen at the majority of the observed nests in both bays. With these derived results, the question under investigation was completely answered. Thus, the researchers concluded that the differences in the reproductive behavior of the common gobies in two bays were most likely due to the differences in nest site availability, as predicted, and that sex-roles and reproductive behavior are plastic traits apparent in common goby. Moreover, a less male-biased OSR is not necessarily associated with a relaxation in male-male competition when males control resources in crucial for reproduction in both sexes and this result significantly implies to other species that are dependent to nest sites, or other such discrete physical structures, for breeding. Thus, this study provides evidence that animal sex-roles may change in response to environmental factors, even over short geographical distances. Works Cited Borg, Asa, Elisabet Forsgren, and Carin Magnhagen. “ Plastic Sex-Roles in the Common Goby: The Effect of Nest Availability.” JSTOR: Oikos 98. 1 (2002): 105-115. Web. 27 June 2011. .