Discussion

The presence of Blue Jays at food-supplemented nests may have functioned to increase predation risk. However, contrary to the prediction, increased risk of predation did not lengthen either the incubation period or the nestling period. However, it may have contributed to a reduction in nestling mass at nest-leaving in one year and the number surviving to nest leaving in another. It may be argued that mealworms are a poor food source for nestlings. If so, then the reductions in mass and number of nestlings could be the result of inadequate nutrition rather than increased predation risk. This is unlikely because mealworms have been readily consumed by passerines in other experimental studies without any noticeable detrimental effects to nestlings (e.g. Garcia et al. 1993, Kacelnik 1984, Moreno 1989, Simons and Martin 1990, Cavitt 1998). Also, mean brood mass and survival were not affected after Blue Jays were excluded from the supplement and parents had exclusive access (Cavitt 1993, Cavitt and Thompson 1997).

Increased human presence at experimental nests (distributing mealworm larvae) may have reduced parental nest attentiveness directly, and indirectly, by attracting natural predators to the nest (Götmark 1992). These factors may have contributed to the lower nestling mass and survival observed. House Wrens do behave as though humans are a potential predator but the lack of any significant effect on nestling quality or survival after the wire mesh screen was added suggests that the effect was minimal. In addition, no significant differences in nest success were found between supplemented and control nests. The delivery of mealworms to experimental nests usually required less then a minute and many control nests were passed while delivering the supplement. Thus, increased human presence at experimental nests can not be considered a major factor.

Responses to food addition and thus increased predation risk were not consistent throughout this study. During the 1990 early season increased food resulted in fewer fledglings produced but during the 1991 early season increased food resulted in lower fledgling mass. In addition, there were no significant differences between treatments in any variable analyzed during the 1990 late season. These results may be accounted for by yearly and seasonal differences in food abundance. Differences in food supply may affect the ability of parents to compensate for missed feeding opportunities (Wheelwright and Dorsey 1991).

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