

FEATURE ARTICLES

**NEST SITE SELECTION IN A HOT DESERT: TRADE-OFF BETWEEN  
MICROCLIMATE AND PREDATION RISK?**

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*Abstract.* Nest placement affects the risk of predation on both eggs and incubating parents and determines the microclimate for incubation, two functions that may be in conflict, especially in hot deserts. We studied the roles of microclimate and nest predation on nest site selection by Hoopoe Larks (*Alaemon alaudipes*) in the Arabian Desert. Hoopoe Larks build nests in three microsites: on the gravel plain away from vegetation, at the base of bushes, or above ground in bushes. Early in the breeding season, 70% of nests were placed on the ground, but as the season progressed, nests in small bushes represented 77% of total nests; nest cover increased from 5% to 21%. Daily survival rate of natural nests was 0.82. Predation on eggs did not differ among nest sites, either for natural nests or in an experiment with artificial nests. Measurements of operative and egg temperatures showed that artificial nests on the gravel plain experience higher temperatures than those under and in bushes. Nest attendance totaled 77% of daytime in nests under bushes and 81% in nests in or on top of bushes, with the larger share of attendance contributed by females. However, during midday, when evaporative water requirements—estimated from temperature profiles at artificial nests—were 10–15-fold higher than during early morning, males and females shared incubation duties almost equally. We hypothesize that Hoopoe Larks favor exposed nest sites to reduce predation risk to themselves as incubating parents, but as the season progresses, they select nest sites with more cover at the base of or within bushes because the thermal environment forces them to do so.

*Key words:* *Alaemon alaudipes, desert, egg temperature, Hoopoe Lark, incubation, microclimate, nest predation.*