Spiking buildings to avoid house martin (*Delichon urban*) nesting: is it a good choice?

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DOI: 10.5073/jka.2011.432.076

Abstract

We tested the effectiveness of installing spikes (® EcoPic E-5) on building eaves and windows to avoid the nesting of house martins. We found that spikes cannot prevent the nesting or reduce colony size. The first year after installing the spikes the colony may be partially affected. However house martins are able to overcome the spikes in the next years and rebuild the nests even on the spikes. We conclude that spikes are ineffective as a deterrent system.

Keywords: deterrents, house martin, nesting, spikes, urban wildlife control

Introduction

House martins (*Delichon urbica*) are migratory birds legally protected in Spain. However, their breeding colonies produce dirt and act as parasite reservoirs causing aesthetic problems and a likely health risk (Yamauchi, 2005). Every year communities of owners try to clean the building eaves, removing nests, repainting and looking for solutions and deterrents to avoid any new nesting.

Material and methods

The study area was located in a 13-building complex named "Residencial El Lago" at Los Arqueros Golf and Country Club (Benahavís, Andalucía, south of Spain). In February 2009 (before the prenuptial bird migration from Africa) we removed martin nests and installed spikes in all the places where they had nested.

We monitored the reconstruction of the colony during the 2009 breeding season, recording the construction of nests on spikes and the displacement of nests to new spike-free locations. In February 2010 we removed all the nests again and monitored the colony. In both years we used a number of buildings as controls, removing nests but without installing spikes.

Results

We did not find significant differences in the average numbers of nests between treated and control buildings (with and without spikes installed) (ANOVA test; $F_{2,36}=1.509$; $p=0.235$). In the control we found 3.07±1.04 nests per building while in treated buildings we found 1.23±0.52 (2009) and 1.76±0.65 (2010). The average nests per building did not significantly differ between control and 2009 (Mann-Whitney test; $Z=-1.400$; $p=0.161$), between control and 2010 (Mann-Whitney test; $Z=-0.829$; $p=0.407$) or between both treated years 2009 and 2010 (Mann-Whitney test; $Z=-0.783$; $p=0.434$).

The spikes displaced 56.25% (2009) and 17.39% (2010) of new nests forcing martins to rebuild them on locations without any spikes installed. However, 43.75% (2009) and 82.61% (2010) of new nests were rebuilt on the spikes. The spikes compared with the control had a significant effect in 2009 ($Chi^2=26.75$; $df=8$; $p<0.001$) but not in 2010 ($Chi^2=14.05$; $df=8$; $p=0.0803$). Considering both years the effect was not significant either ($Chi^2=3.69$; $df=16$; $p=0.0747$). The frequency of nests installed on spikes was not significantly different between years ($Chi^2=14.05$; $df=5$; $p=0.5945$).

Discussion

As it has been shown with other type of deterrents (Duarte et al., 2011), these may have a significant effect on the colony during the first year after the installation, with a nest displacement rate of 50% and a relative decrease in colony size. However martins are able to overcome the deterrent, managing to nest and rebuild the colony as shown by the high percentage of nests installed on spikes during the second year. We conclude that spikes are not a good choice to avoid martin nesting on buildings as their efficacy is relative.

References

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