

## *How to repellent the raptors*

### Wide-eyed glare scares raptors



### □ Wide-Eye pattern that raptors hate

– Source : French Institute of Science and Technology, **Airbus Group**, Rennes 1 University **Joint research**

- PLOS ONE | <https://doi.org/10.1371/journal.pone.0204802> October 11, 2018 15 / 15

 **YouTube** <https://www.youtube.com/watch?v=T8HApzOm5fQ>  
- **Practical product** : Korea A&F system company bird strike institute (2018.11~2019.05)

### Abstract

Raptors are one of the most important causes of fatalities due to their collisions with aircrafts as well as being the main victims of collisions with constructions. They are difficult to deter because they are not influenced by other airspace users or ground predators

Because vision is the primary sensory mode of many diurnal raptors, we evaluated the reactions of captive raptors to a “superstimulus” (a “paradoxical effect whereby animals show greater responsiveness to an exaggerated stimulus than to the natural stimulus”) that combined an “eye shape” stimulus (as many species have an aversion for this type of stimulus) and a looming movement (LE). This looming stimulus mimics an impending collision and induces avoidance in a wide range of species. In captivity, raptors showed a clear aversion for this LE stimulus. We then tested it in a real life setting: at an airport where raptors are abundant. This study is the first to show the efficiency of a visual non-invasive repellent system developed on the basis of both captive and field studies.

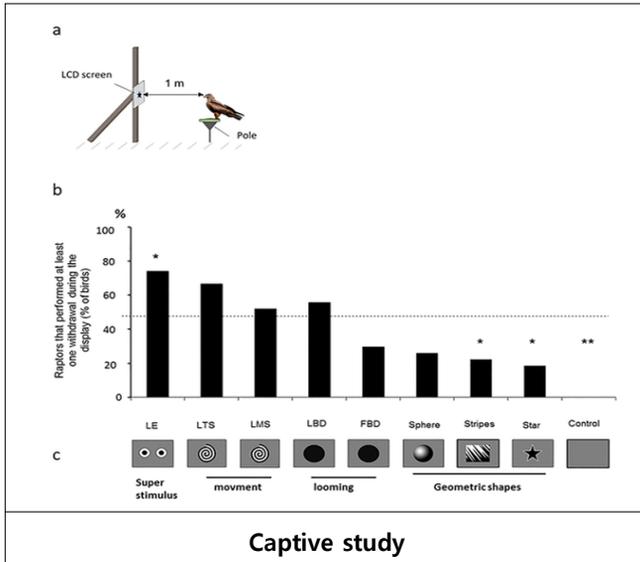
This system deterred birds of prey and corvids through aversion, and did not induce habituation. These findings suggest applications for human security as well as bird conservation, and further research on avian visual perception and sensitivity to signals.

The results based on more than 8800 records of birds, therefore strongly suggest that the continuous display of large looming eyespots repelled birds of prey and corvids from undesirable areas.

This study took place at Lourdes–Tarbes–Pyrenees airport in the South Western part of France between August 19th and September 29th 2016

according to stimulus visibility are significant and did not show habituation the stimulus over the 5 weeks of experiment.

Tests of practical products in Korea showed the same effect.



**Captive study**



**Test at airport**



### Practical product

- Size : 153×85×60(40)cm / 23.0 kg
- Solar panel : 30W / Battery : 12V-18ah
- Automatic operation by optical sensor
- Continuous rainy weather
- Motor : DC 12v /
- 1 minute standby 2~3



### Used with non-powered windmills

- Size : 92×92×90 cm / 7.78kg
- Motor less Rotation by wind
- 4m mounting distance