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Waders Sacrifice Safety for Sustenance

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University of Birmingham researchers from the Centre of Ornithology have found that in Golden Plover - waders found on coastal marshland around the UK - the use of vision for close accurate behaviours like foraging takes precedence over looking for predators.

The Birmingham ornithologists have discovered that the Plovers' eyes are anchored in the skull by a special wing-like outgrowth of bone which has not been seen in any other bird.

Golden Plovers feed at night and this is associated with their relatively large eyes which literally bulge from the skull. The larger eyes and these associated bones have resulted in a wide blind area above the head which leaves Golden Plovers particularly vulnerable to predation.

In the majority of animals vision needs to serve two key demands simultaneously – firstly the detection of predators and secondly the control of accurate behaviours, such as the procurement of food at close quarters. By comparing the visual fields of the two species of shorebirds – Golden Plover and Red Knot - the scientists have shown that there is a clear evolutionary trade off between the need to forage and feed and the need to protect themselves from predators.

Professor Graham Martin who led the research says, 'By comparing the visual fields of these two species of shorebirds we have concluded that the use of vision for activities like feeding take clear precedence over predator detection. We have discovered an outgrowth of bone that anchors the enlarged eyes of golden plovers to the skull – the bone has been officially named 'Os supraorbitale aliforme'. These birds therefore have a blind area above the ahead, rendering them very vulnerable to being eaten.'

Ends

Notes to Editors

The paper relating to this research will be published in Royal Society Journal Proceedings of the Royal Society B: Biological Sciences, 00:01am Wednesday 8th October.

For further information

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