

## Observations on the diet of fledgling Goldcrest *Regulus regulus* (Linnaeus, 1758) (Passeriformes, Regulidae) at Little Comberton, Worcestershire.

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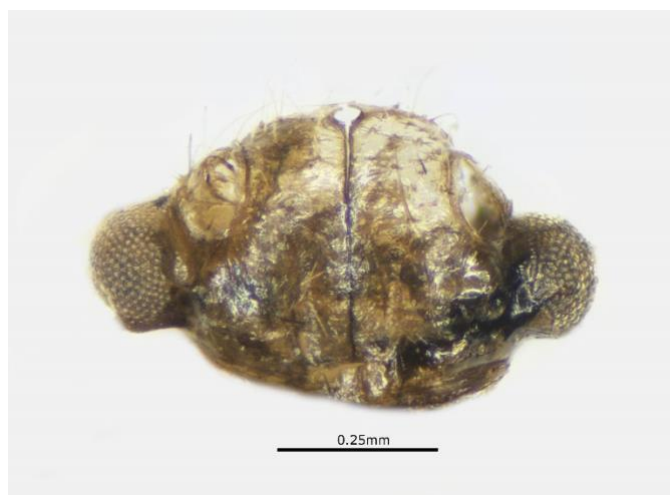
### Introduction

A large open-grown Wellingtonia tree *Sequoiadendron giganteum* (Lindl.) Buchholz at Little Comberton, Worcestershire (VC37 SO 94) has often attracted Goldcrests *Regulus regulus* (L., 1758) but with decreasing frequency. Nesting took place in 2004 and 2006 and a singing male occurred during 2015. More recent nesting attempts may have gone unnoticed. Sustaining progeny in an open grown Wellingtonia is not a simple matter for insectivorous birds in exposed environments which are known to have suffered during recent climatic anomalies. A nest of Coal Tit *Periparus ater* Linnaeus, 1758 containing 10 eggs in the same tree was abandoned by the parent birds in 2021, a year with one of the coldest springs on record, followed in July by the first Amber heat warning for the UK.

On 6 January 2023 a complete nest of a Goldcrest was blown out of the Wellingtonia, a tree which is able to secure suspended nests very securely on its pointed, spirally arranged leaves. Whatever the original age of the nest, it contained two completely mummified, well-developed fledglings. One of these had been predated resulting in damage to the back of the skull, forcing the beak open and would have instantly killed the bird; its corpse remained in the nest. The gizzard content of this fledgling was examined.

### Discussion

The gizzard comminutes the ingesta (breaks down the food items into tiny particles). In this instance it contained a solid mass of desiccated fragmented invertebrates largely composed of the skeletal parts and appendages of spiders, none of which could be identified readily. According to Snow & Perrins (1998) spiders form a significant part of the normal diet of Goldcrests. Amongst this compressed mass, two very distinctive head fragments of an insect were isolated, one of which was determined by the writer as representing Ephemeroptera, Caenidae, *Caenis* sp. (01), a genus well represented in the British mayfly fauna. The identity was subsequently confirmed by Dr Helen James, a Senior Curator of Natural Sciences at the Ulster Museum, Belfast. The second head was also assigned to Caenidae.



01. Head of mayfly *Caenis* sp. extracted on 6 January 2023 from the gut of a long- dead mummified Goldcrest fledgling, Little Comberton, Worcestershire. © P. F. Whitehead.

A canalised spring-fed brook forming part of the catchment of the River Avon runs within 29 m of the Wellingtonia tree. 55 m distant is a large Leyland Cypress *Cupressus x leylandii* A. B. Jacks. & Dallim. shrouds the brook. It seems probable that the adult Goldcrests placed some reliance on these trees for food and would have encountered mayflies resting there. Although subject to considerable variation of flow throughout its course the bed of the brook at this point is floored by pebbles embedded in a silty matrix on which mayflies seem to occur at low density. Immediately upstream the flow is ponded.



02. Dorsal aspect of head and thorax of female *Cloeon dipterum* (Linnaeus, 1761) (Ephemeroptera, Baetidae), Little Comberton, Worcestershire, 27 June 2021. © P. F. Whitehead.

### Conclusion

At Little Comberton, nestling Goldcrests were fed largely on spiders. The adult birds worked large conifers overtopping a brook and occasionally collected mayflies. The occurrence of mayflies at the site (02) is otherwise little-known and they are believed to occur at low densities. The flow regime of the brook is strongly influenced by climatic impacts and the condition of springs on Bredon Hill and may be subject to considerable variation. During the great drought of 2022 the bed of the brook remained largely dry until October except in places where its bed had been mechanically lowered.

### Acknowledgement

Dr Helen James (Belfast) kindly provided informed comment on images of *Caenis* sp.

### Reference

Snow, D. W. & Perrins, C. M. 1998. *The Birds of the Western Palearctic [concise edition], Volume 2. Passerines*. Oxford University Press.

### Images

01. Head of mayfly *Caenis* sp. extracted from the gut of a long-dead mummified Goldcrest fledgling, Little Comberton, Worcestershire on 6 January 2023. © P. F. Whitehead.

02. Dorsal aspect of head and thorax of female *Cloeon dipterum* (Linnaeus, 1761) (Ephemeroptera, Baetidae), Little Comberton, Worcestershire, 27 June 2021. © P. F. Whitehead.