

# Predation strategy of the Eurasian Jay *Garrulus glandarius* and antipredator response by the Citril Finch *Serinus citrinella*

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Eurasian Jays *Garrulus glandarius* are known to be significant predators on songbird nests. Herein follows a description of the nest-searching actions of an Eurasian Jay on 7th June 2002 at the ski-resort La Vansa in the Spanish Pre-Pyrenees range (Catalonia). During a period of four minutes, the bird checked four mountain pines *Pinus mugo uncinata* for possible nesting sites of other birds. The jay examined the denser parts of the tree, beginning in the lower parts of lateral branches and finally checking the crown. The searching behaviour led to mobbing reactions by half a dozen Citril Finches *Serinus citrinella*, probably pairs breeding in the vicinity, which followed the jay while it was checking the trees, and uttered a concert of antipredator calls. La Vansa is an area with high breeding densities of Citril Finches (12-15 breeding pairs/10 ha), which is likely to make their nests amongst the preferred objects for predation by the Eurasian Jay.

Key words: Citril Finch, *Serinus citrinella*, Eurasian Jay, *Garrulus glandarius*, predation strategy, predator-antipredator interactions

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Eurasian Jays are known to be significant predators on songbird nests (Glutz von Blotzheim & Bauer 1993). However, published descriptions on their nest-searching strategy are scarce, perhaps because the birds are very "secretive" predators, in contrast, for example, to Black-billed Magpies *Pica pica*. Predator-antipredator interactions are very rarely described for cardueline finches and observations of such behaviour tend to be rather haphazard (Newton 1972, Glutz von Blotzheim & Bauer 1993, Cramp & Perrins 1994, Senar *et al.* 1996). This note describes the observation of an interaction between an Eurasian Jay and several Citril Finches on 7th June 2002 at the ski-resort of La Vansa; the action lasted roughly four minutes (10:31-10:35 a.m.).

## *Predation strategy of the Eurasian Jay*

The Eurasian Jay was first observed when it appeared at the edge of a mountain pine *Pinus mugo uncinata* forest. The jay first examined the denser parts of a mountain pine, in particular the larger lateral branches in the lower parts, and then moved up to some upper branches of the pine, and finally into the crown of the tree. Afterwards it flew over to one of a number of isolated mountain pines in the middle of a meadow. There it repeated the same behaviour as in the first tree, starting again in some lateral branches of the lower parts, and afterwards slowly moving up towards the crown, while it constantly checked systematically for possible nesting sites to predate, especially in the very

dense parts at the ends of the branches and in the crown. These parts are known to be the typically preferred sites for Citril Finch nests (Förschler 2002). When the jay reached the crown, it flew over to the next isolated neighbouring pine and continued there with the same procedure as before. After this, the bird flew over the meadows again to another pine at the edge of the forest, where it continued its search. Finally the jay disappeared into the forest without having found a nest. It was particularly striking that the jay always started in the lower branches and finished the examination in the crown of the trees (see Fig. 1).

#### *Antipredator reactions of the Citril Finch*

From the moment in which the Jay first appeared, a pair of Citril Finches accompanied it, generally keeping a short distance off. Sometimes they approached the jay very closely, flying over its head. The finches continuously uttered typical antipredator call combinations. When the jay reached the tree in the meadow, about four other Citril Finches also assembled in the area around the Jay, and all the birds contributed to a concert of antipredator calls. After this, a group of about six Citril Finches followed the jay further on until it finally disappeared in the forest. The Jay seemed to pay very little attention to the Citril Finches, and continued its examination of the trees very carefully. Besides the Citril Finches, a Mistle Thrush

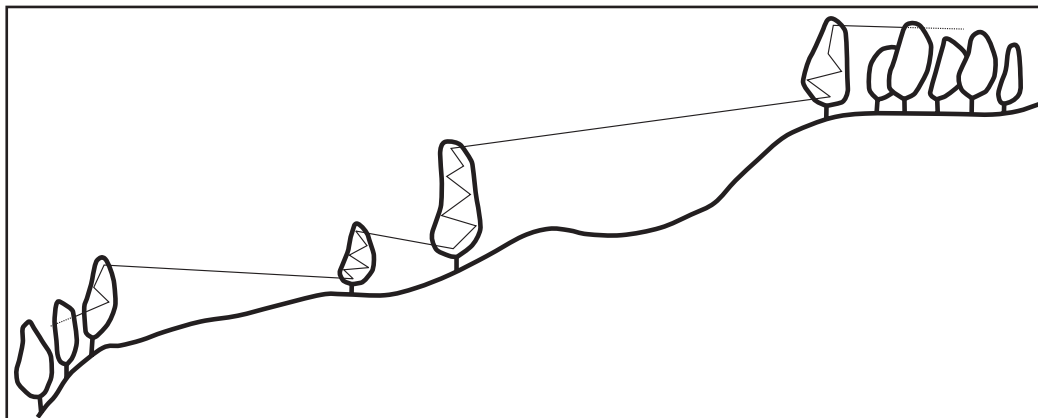
*Turdus viscivorus* also followed the Jay, and constantly made warning calls.

## Discussion

Citril Finches are very common on the mountain of Port del Comte, where densities can locally reach 12-15 breeding pairs/10 ha (pers. obs.). The Eurasian Jay is likely to be one of the most important predators of their nests. The observed searching strategy seemed to be very suitable for finding Citril Finch nests, because all probable and typical sites of the trees were systematically checked by the jay.

Citril Finches often breed in small groups (semi-colonial breeding spots) with short inter-nest distances (Förschler 2002). The assembling of the warning Citril Finches around the jay appears likely to be a good strategy for distracting the jay from the real nesting sites of the group. Therefore it seems quite possible that pairs of Citril Finches in the area communally help each other in order to avoid predation. At Mt Schliffkopf in the northern Black Forest (Germany) similar behaviour by Citril Finches was recorded in conjunction with the appearance of a Red-backed Shrike *Lanius collurio* near a nesting site (pers. obs.).

This behaviour is not only confined to avian nest predators. Comparable observations have also been made during routine controls by the author of Citril Finch nests in both the Black Forest and the Pre-Pyrenees. In the first contact



**Figure 1:** Nest-searching strategy of a Eurasian Jay *Garrulus glandarius* in mountain pines *Pinus mugo uncinata* at La Vansa, in the Pre-Pyrenees, on 7th June 2002.  
*Estratègia de cerca de nius per part del Gaig en pins negres a la Vansa, Prepireneu, el 7 de juny de 2002.*

with humans, Citril Finches do not pay much attention to the presence of the investigator near the nesting sites, but this changes very quickly if the Citril Finches encounter the observer during a nest control. Afterwards they notice the presence of the “potential predator” whenever the investigator comes close to their nest, and birds of neighbouring nests join them in warning and flying around the observer (pers. obs.).

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### Resum

#### **Estratègia de predació del Gaig *Garrulus glandarius* i resposta antipredadora de la Llucareta *Serinus citrinella***

És prou conegut que el Gaig *Garrulus glandarius* és un predador important de nius d'ocells. Aquí es descriu la conducta de cerca d'un Gaig el 7 de juny de 2002 a l'estació d'esquí de la Vansa, al Prepirineu català. Durant un període de quatre minuts, l'ocell va inspeccionar quatre pins negres *Pinus mugo uncinata* a la cerca de possibles nius d'altres ocells. El Gaig va examinar les zones més espesses de l'arbre, començant per les parts inferiors de les branques laterals i va acabar a la capçada. El comportament de la cerca va despertar el rebuig de mitja dotzena de Llucaretes *Serinus citrinella*, probablement parelles que niaven als voltants, que seguien el Gaig mentre es movia pels arbres, alhora que emetien crits antipredadors. La Vansa és una àrea amb una alta densitat reproductora de Llucareta (12-15 parelles/10 ha), la qual cosa converteix els nius d'aquesta espècie probablement en un dels objectius preferits per a la depredació del Gaig.

### Resumen

#### **Estrategia de predación del Arrendajo *Garrulus glandarius* i resposta antidepredadora del Verderón Serrano *Serinus citrinella***

Es ampliamente conocido que el Arrendajo *Garrulus glandarius* es un depredador importante de nidos de aves. Aquí se describe la conducta de búsqueda de un Arrendajo el 7 de junio de 2002 en la estación de esquí de la Vansa en el Prepirineo catalán. Durante un período de cuatro minutos, el ave inspeccionó cuatro pinos negros *Pinus mugo uncinata* a la búsqueda de posibles nidos de otras aves. El Arrendajo examinó las zonas más espesas del árbol, empezando por las partes inferiores de las ramas laterales y terminó en la copa. El comportamiento de búsqueda despertó el hostigamiento colectivo de media docena de verderones serranos *Serinus citrinella*, probablemente parejas que se reproducían en los alrededores, que perseguían al Arrendajo mientras se movía por los arboles, a la vez que emitían voces antidepredadoras. La Vansa es un área con una alta densidad reproductora de Verderón Serrano (12-15 parejas/10 ha), lo que convierte a los nidos de esta especie probablemente en uno de los objetivos preferidos para la depredación del Arrendajo.

### References

- Cramp, S. & Perrins, C. M.** (eds.) 1994. *The Birds of the Western Palearctic* Vol. VIII. Oxford: Oxford University Press.
- Förschler, M.** 2002. Brutbiologie des Zitronengirlitz *Serinus citrinella* im Nordschwarzwald. *Ornithol. Beob.* 99: 19-32.
- Glutz von Blotzheim, U. N. & Bauer, K. M.** 1993. *Handbuch der Vögel Mitteleuropas*. Bd. 14/II. Wiesbaden: Aula-Verlag.
- Newton, I.** 1972: *Finches*. London: Collins.
- Senar, J., Bone, D. & Bone, L. A.** 1996. A pair of Serins *Serinus serinus* attacking Magpie *Pica pica* close to their nest. *Butll. GCA* 13: 63-64.