



---

## Ornithology from the Tree Tops

Author: Bijlsma, Rob G.

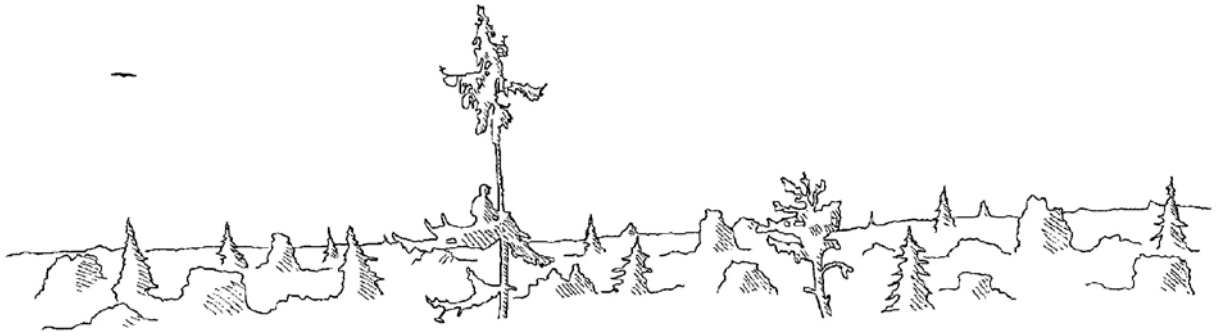
Source: *Ardea*, 102(1) : 3-4

Published By: Netherlands Ornithologists' Union

URL: <https://doi.org/10.5253/078.102.0102>

---

BioOne Complete (complete.BioOne.org) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.



## Ornithology from the tree tops

In the pesticidal environment of the 1960s, avian predators were scarce. Predation as an ecological factor of almost universal importance, as stated by Eberhard Curio, let alone something to be witnessed first-hand; it was hard to imagine. The sparse predator fauna seemed hardly more than a marginal factor in everyday bird life (but what 'seems' is, of course, of no relevance in science). In this setting, David Lack's view of food as the main regulator of animal numbers fell on fertile ground, especially in the light of Paul Errington's idea that predators were mostly skimming off the cream without affecting populations. Other voices, advocating a larger – or even predominant – influence of predation on bird numbers and reproduction, were grounded in studies in more intact ecosystems, i.e. tropical rainforest (Alexander Skutch) and Białowieża National Forest,

a temperate primeval forest (Wesołowski & Tomiałojć 1997, Jędrzejewska & Jędrzejewski 1998). But, in the words of Bob Dylan in 1964: The battle outside ragin', will soon shake your windows, and rattle your walls, for the times they are a-changin'. It might have been the motto of an evolutionary ecologist, for even at the small time scale of decades, the changes since then have been profound. Predators are a case in point. Half a century has passed since the time that J.A. Baker published his Peregrine lament, ending his preface with little hope: "It is a dying world, like Mars, but glowing still." And look: predators are back in western Europe in numbers never witnessed before by anyone alive.

The return of predators, in The Netherlands equating with a ten- to twentyfold increase in breeding numbers and distribution of many raptor species, had



Adult male European Honey-buzzard killed and partly eaten by Northern Goshawk, underneath its nest in the forestry of Smilde, northern Netherlands, 17 June 2014, a regular sight in Dutch woodlands. Predation is the major mortality factor on Dutch breeding grounds (photo Rob Bijlsma).

its impact on the raptor guild. Not at first, though. As numbers recovered from the pesticide-related crash, and apexed in the 1980s and 1990s, intraguild predation was a rare phenomenon. High Northern Goshawk *Accipiter gentilis* numbers coincided with peak numbers and high reproductive success of the smaller raptor species. Only occasionally a raptor nest was plundered, or a breeding bird taken, notably when weather conditions during the nestling stage were adverse and Goshawks resorted to grabbing chicks from nests. In those days, locating occupied raptor nests was easy. In spring, adults conspicuously advertised their territorial claims and vigorously alarm-called when their nest was approached. When the alarm subsided, it was evident that the search path had moved away from the nest, and a return to the place of loudest clamour was the surest way to track down the nest. This method of searching, in fact, is one of the many fail-safe tricks used by the dedicated raptorophile to locate nests. But apparently not everywhere and under all circumstances, for finding raptor nests during a survey in Białowieża National Park in the early 2000s turned out to be a frustrating experience: these birds were silent and sneaked away from their nest long before they could be noticed. In this predator-rich environment, where predation was (and is) a major factor in determining reproductive success, the difference in vocal behaviour compared to our western European raptors was striking.

Every boom has its bust. Raptors are no exception. After the hosanna-years of the late 20th century raptors breeding in the woodlands on the poorly buffered sandy soils of The Netherlands started to decline. What exactly caused this decline is still unclear, but food shortage, perhaps in combination with declining food quality and changing forestry practices, may be involved. Whatever the triggers, the decline of Goshawks in particular, started an avalanche of unforeseen changes in the environment. Contrary to expectation, intraguild predation steeply increased, with highest predation rates at lowest Goshawk densities (and poorest breeding success). This was mainly a result of Goshawks having to diversify their diet in response to the population crash of Woodpigeons *Columba palumbus*, the formerly superabundant prey species that accounted for much of the Goshawk's success after persistent pesticides had been banned from the environment. Goshawks normally prey on bird species varying in mass between 75 and 500 g, but much lighter and heavier prey species are now routinely captured, ranging from small passerines to geese. Another feature of today's (Dutch) woodlands is widespread and inten-

sive intraguild predation. First mostly targeted at the smaller species and their nestlings, but increasingly also at medium-sized raptors like European Honey-buzzards *Pernis apivorus* (since the early 2000s, 30–70% of nests being plundered in study plots in the central and northern Netherlands) and Common Buzzards *Buteo buteo* (up to 30%), and adult birds.

As a greying raptorophile with roots in the 1970s, I walk my forested study plots in wonder. Where have the Eurasian Hobbies *Falco subbuteo* gone, or Sparrowhawks for that matter? The few remaining Sparrowhawks should be located before or during egg-laying, because many breeding birds are killed before the clutch can be completed. Very few nests reach the hatching stage, and of those none will see chicks at an age that they can be sexed and ringed. Successful nests of Buzzards and Honey-buzzards should be checked after fledging, for in many cases killed fledglings can be found within 100 m of the nest. And most amazing of all: raptors have become silent. The standard of alarm-calling and aggressive defence at the nest has switched to another standard, i.e. breeding birds being utterly silent, also when the nest is approached, the nesting tree climbed, eggs or chicks handled, prey remains searched for... Even prey transfers, normally good for some vocal exchange between partners, have become a furtive affair. Predators rule, not least because Pine Martens *Martes martes* are also back, and Eurasian Eagle Owls *Bubo bubo* on the threshold. Their impact on numbers, distribution and behaviour of raptors is larger than ever. It's a dangerous world out there, as it should be. What a privilege to experience a world where predators are back to normal.

- Baker J.A. 1967. The Peregrine. Collins, London.  
 Caro T. 2005. Antipredator defenses in birds and mammals. University of Chicago Press, Chicago.  
 Curio E. 1976. The ethology of predation. Springer-Verlag, Berlin.  
 Errington P.L. 1967. Of predation and life. Iowa State University Press, Ames.  
 Jędrzejewska B. & Jędrzejewski W. 1998. Predation in vertebrate communities: the Białowieża Primeval Forest as a case study. Springer-Verlag, Berlin.  
 Lack D. 1954. The natural regulation of animal numbers. Clarendon Press, Oxford.  
 Sergio F. & Hiraldo F. 2008. Intraguild predation in raptor assemblages: a review. Ibis 150, Suppl. 1: 132-145.  
 Wesolowski T. & Tomiałojć L. 1997. Breeding bird dynamics in a primeval temperate forest: long-term trends in Białowieża National Park (Poland). Ecography 20: 432-453.

Rob G. Bijlsma