Diet of the first settled wolves (*Canis lupus*) in Flanders, Belgium

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Abstract: After a long period of absence, the wolf (*Canis lupus*) has made its comeback in Flanders, Belgium. Nevertheless, the proximity of a top predator in a human-dominated landscape could lead to a variety of conflicts, e.g. attacks on livestock and competition with hunters. This research describes the diet of the first settled wolves in Flanders in order to avoid misconception regarding this topic. From 2018 to 2021, 140 wolf scats were collected within the only wolf territory in Flanders. Prey species identification was based on hair features, and bone and tooth remains. Results are expressed as the frequency of occurrence of prey species relative to the total number of scats (=FO). Wild ungulates represented the largest part of the diet (FO=90.0%), with roe deer (*Capreolus capreolus*) (FO=69.3%) and wild boar (*Sus scrofa*) (FO=22.9%) as the main prey species of this category. Overall consumption of livestock was limited (FO=12.9%), but raised to 47.1% FO in autumn 2020. We believe that this phenomenon is explained by the presence of the first developing young which are not yet able to hunt, but still need to be fed. The large availability of unprotected livestock in the study area was therefore an easy and attractive alternative in case of higher energetic needs. Although the overall results indicate a rich wild prey base, this study addresses the necessity to further implement protective measures to prevent livestock predation. By the end of 2018, only 4% of randomly chosen pastures within a defined risk area were sufficiently protected.

Keywords: wolf, *Canis lupus*, diet, human-dominated landscape, Flanders, Belgium.

Introduction

The wolf (*Canis lupus*) in Europe is showing a marked recovery triggered by its protected status under the Bern Convention (1979) and the Habitats Directive (1992), together with the conservation of potential wolf habitat and growing prey supplies. Dispersing individuals originating from the Baltic and the Apennine relict populations gradually recolonised parts of Germany and France respectively, eventually leading to the recorded presence of both genetic lineages in Belgium (Everaert et al. 2018). In 2018, the first official settlement occurred in the north of the Flemish province of Limburg (Belgium), followed by successful reproduction in 2020. In addition, multiple dispersing individuals have been recorded in Flanders since 2018 (Gouwy et al. 2018, 2019, 2020a, 2020b). This ongoing recolonisation process towards human-dominated areas, could ratchet up the tensions again which historically led to the extermination of the wolf in most of Europe. Basis of conflict is the feeding ecology of the species, potentially causing economical and emotional damage due to attacks on livestock and pets, and competition with the hunting sector (Kleiven et al. 2004, Bergstrom et al. 2009, Kovařík et al. 2014). In addition, the question arises whether human-dominated landscapes offer a sustainable amount of wild prey. It is of great importance to obtain accurate information on this

topic in order to guide policymaking and to avoid the spread of misconception among the general public, and as such, facilitate coexistence with a top predator (Everaert et al. 2018).

Previous studies on wolf diet in Europe show a flexible and opportunistic predator, enabling the species to persist throughout a wide range of ecological, even anthropogenic, conditions. The feeding ecology is predominantly driven by the spatiotemporal interplay of relative abundance and vulnerability of potential prey species, with an emphasis on wild ungulates (Peterson & Ciucci 2010, Zlatanova et al. 2014). Across Europe, roe deer (*Capreolus capreolus*), red deer (*Cervus elaphus*), wild boar (*Sus scrofa*) and moose (*Alces alces*) are identified as the major prey species (Okarma 1995, Jędrzejewski et al. 2000, Kübarsepp & Valdmann 2003, Nowak et al. 2005, Ansorge et al. 2006, Müller 2006, Barja 2009, Žunna et al. 2009, Nowak et al. 2011, Lanszki et al. 2012, Wagner et al. 2012, Sand et al. 2016, Mori et al. 2017, Sin et al. 2019). Other locally present ungulates, such as fallow deer (*Dama dama*) and mouflon (*Ovis orientalis*), are predated as well (Ansorge et al. 2006, Wagner et al. 2012). In addition, lagomorphs and Eurasian beaver (*Castor fiber*) could make a clear contribution to the diet, of which the latter appears to be a key prey species in wetland habitats (Okarma 1995, Andersone & Ozoliņš 2004, Sidorovich et al. 2017). If the availability of wild prey proves inadequate, livestock predation and waste consumption are adaptive foraging strategies. This phenomenon is particularly prevalent in certain southern European regions which are clearly characterised by a very low densitiy or a total lack of wild prey (Zlatanova et al. 2014). Nevertheless, when both wild and domestic prey are abundant, a preference for the former is generally observed (Sidorovich et al. 2003, Gula 2008, Barja 2009, Zlatanova et al. 2014, Imbert et al. 2016).

The feeding ecology of wolves is also well documented in recolonised regions. In Germany and western and central Poland, the wolf's diet mainly consists of wild ungulates while the contribution of livestock remains very limited (Nowak et al. 2005, Ansorge et al. 2006, Wagner et al. 2012). In Italy, a steady decline in livestock consumption has been observed during the recolonisation process (Meriggi & Lovari 1996, Meriggi et al. 2011). A meta-analysis conducted by Imbert et al. (2016), focusing on northern Italy, reveals multiple explanatory variables: the adoption of livestock protection measures, an increasing abundance of roe deer next to wild boar and the presence of stable wolf packs.

Although the wolf is indeed a well-studied species in terms of its feeding ecology, its increasing distribution corresponds to a growing proximity to human-dominated landscapes. Compared to studies conducted in Germany (Ansorge et al. 2006, Wagner et al. 2012), the northern part of the province of Limburg resembles a more anthropogenised region: highly fragmented nature areas, the absence of larger-sized ungulates (i.e. red deer), a lack of livestock protection measures and a high density of human population and traffic. In this context, our goal is to describe the diet of the first settled wolves in Belgium which should contribute to the understanding of wolf ecology in human-dominated landscapes. The results of this study should also be used to inform policymakers and the general public.

Materials and methods

Study area

The study was conducted in the north of the province of Limburg which is part of the Flemish Region of Belgium. It is the only region in Flanders where the wolf is settled. First, a female wolf appeared in the study area in 2018, which was joined by a male later that year. The female died in 2019 but successful reproduction occurred one year later after a new female made her appearance at the turn of the year 2019/2020. Derived from monitor-

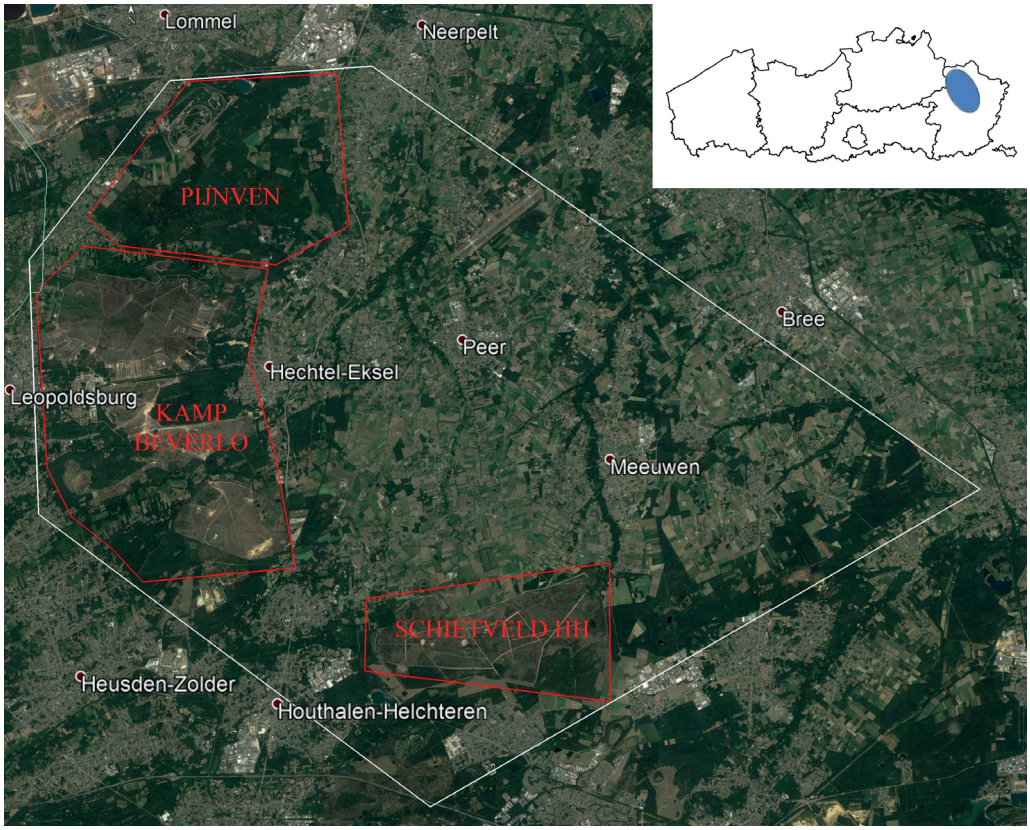

Figure 1. Indicative view of the study area (large white polygon and blue oval on the inset map) in the north of the province of Limburg, Belgium, with the three core areas circled in red.

ing studies, e.g. verified observations and damage records, the current wolf home range surrounds an area of ± 400km², including less suitable areas such as industrial, residential and intensive arable farming areas. The home range (partly) overlaps with the municipalities of Lommel, Hechtel-Eksel, Pelt, Leopoldsburg, Beringen, Oudsbergen, Peer, Heusden-Zolder and Houthalen-Helchteren and is indicatively represented in figure 1 by the polygon. Occasionally, the settled wolves are also observed outside of the polygon in the neighbouring municipalities of Balen, Bree, and Genk.

Within the wolf home range, three large nature areas are distinguished. Namely, the Pijnven state forest and its direct surroundings, and two military bases, 'Kamp Beverlo' and 'Schietveld Houthalen-Helchteren'. These core areas belong to the intensively used habitat of the settled wolves, together with the open agricultural habitat south of Peer.

The predominantly flat study area lies at an altitude of 50-90 meters above sea level and consists almost entirely of sandy soils and locally some small areas of peat. The vegetation is composed of dry and wet heathland, pine and deciduous forest on dry soils, patches of marsh forest in river valleys and a small area of grassland. Yet, most of the study area, i.e. within the polygon, is made out of arable and urban land.

The ungulate community mainly consists of roe deer and wild boar. Escaped fallow deer regularly appear in the study area although its share to the ungulate community is low. In one instance, a red deer was captured on

camera trap. Presumably this individual was an escapee, but dispersal from a small population in the north-east of Limburg cannot be ruled out. Other potential prey species in the study area are rabbit (*Oryctolagus cuniculus*) and brown hare (*Lepus europaeus*). Presence of beaver was observed along three small rivers crossing the study area, however the species is not abundant in the wolf core areas (red polygons): only one territory was registered.

Across the study area, sheep (*Ovis aries*) are kept by both hobbyists and professionals. A small number of captive mouflon is present in at least one place. Other medium-sized (domestic) animals in captivity are goat (*Capra hircus*), fallow deer, red deer, alpaca (*Vicugna pacos*) and Bennett's wallaby (*Macropus rufogriseus*). In addition, both dogs (*Canis familiaris*) and (stray) cats (*Felis catus*) are common in the study area. Dogs must be leashed by law, although unleashed, or even escaped dogs are occasionally observed during day and night (INBO, own observations). Holvoet (2019) showed that only 4% of randomly chosen pastures were sufficiently protected against wolf attacks by the end of 2018.

Data collection and analyses

The wolf diet was examined based on scats collected from May 2018 to February 2021 within the wolf territory described above. Scats were detected randomly during the entire study period and the distinction between scats of wolf, domestic dog, red fox or other species, was based on expert judgement. In addition, a dog called Wietse was used to actively search for scats starting from December 2020. This dog was trained to recognise the scent of wolf scats and to discriminate them from other species under different treatments: e.g. age of scats, different locations, leashed or unleashed. Reliability was successfully demonstrated by means of a blind test. Expert judgement was used as a double check in the field, but there were no disagreements. As part of the wolf monitoring study, 19 scats were also checked for DNA in order to identify individual wolves since the first young started to move around in 2020. Of these, all appeared to be from wolf.

The scats were collected in their totality or to the greatest extent possible. Place and date of collection were subsequently noted. Next, the scats were stored at a temperature of -80 °C for at least eight days. This freezing process was intended to neutralise possible pathogens, especially eggs of *Echinococcus multilocularis*, a small cyclophyllid tapeworm. After thawing, the scats were soaked in water for approximately one hour and then rinsed over a 0.5 mm sieve to remove mud and debris. During rinsing, a distinction was made between hairs, bone and tooth fragments, vegetation and other substances. Subsequently, the residue was dried at room temperature after which the hair residue was examined under a stereomicroscope. Hairs were randomly isolated and classified according to shape, diameter, length and colour, with particular attention to guard hairs. Selected hairs were cleaned by rinsing with a detergent solution and then left to dry on absorbent paper. Cleaned hairs were macro- and microscopically identified using an own reference collection and the determination keys of Teerink (1991) and Tóth (2017). Microscopic hair features were visualised using the methods described by Teerink (1991). Additionally, tooth and bone fragments were identified using the reference collection of the Royal Belgian Institute of Natural sciences (KBIN). If species identification was still not possible, the highest taxonomic rank was determined. In case of wild boar, a distinction based on hair features was made between juveniles (< 3-5 months) and sub(adults). Results are expressed as the frequency of occurrence (FO) which is calculated by the relation of the number of scats containing a certain prey item to the total number of scats analysed:

$$FO = ni/N$$

Where *ni* is the total number of scats that contained a certain prey item *i* and *N* is the total number of scats analysed. Frequency of occurrence was calculated by prey species and by prey category. Based on the identified prey species, the following categories were distinguished:

- Wild ungulates (wild boar, roe deer, fallow deer, unidentified deer)
- Lagomorphs (brown hare, rabbit, unidentified Lagomorph)
- Livestock (sheep, goat, domestic pig)
- Domestic dog
- Domestic cat
- Small rodents
- Birds
- Fruits and seeds

Two or more different prey species belonging to the same prey category encountered in one scat, were reduced to a single prey item when calculating the frequency of occurrence at the category level. Fallow deer was assigned to 'Wild ungulates' due to both the escaped and captive status of this deer species and methodological constraints, i.e. the inability to distinguish between hairs of juvenile deer species with sufficient certainty (De Marinis & Asprea 2006).

Differences in the diet composition between 2018-2019 and 2020-2021 (before and after the arrival of the second female) and between seasons were analysed using Fisher's exact test. The following prey categories were used:

- Deer
- Wild boar
- Lagomorphs
- Livestock

Assignment to season was meteorologically based, e.g. spring begins on 1 March and ends on 31 May. Data was statistically analysed using RStudio (version 4.0.2) (R Core Team 2020).

Results

A total of 202 prey items out of 140 wolf scats were identified (table 1). The majority of the scats contained remains of only one prey item (65.7%). Presence of two prey items was recorded in 27.1% of the samples. Three and four items were found in 4.3% and 2.9% of the scats, respectively. The number of scats gathered in 2018-2019 (n=51) was notably lower compared to 2020-2021 (n=89). Date of collection was not known for three scats collected in 2019.

Wild ungulates clearly represented the largest part of the wolf diet (FO=90.0%). Within this category, roe deer was the most frequent prey species (FO=69.3%) followed by wild boar (FO=22.9%). More than half of the prey items identified as wild boar (59.4%), originated from juveniles with a maximum age of three to five months. Fallow deer was recorded in 7.1% of the scats. Seven prey items identified as deer, could not be specified at the species level.

With a frequency of occurrence of 13.6% and 12.9% respectively, lagomorphs and livestock were found about equally often. Within the latter, sheep was the most frequent prey species (FO=8.6%), followed by goat (FO=4.3%). A third species belonging to this category is domestic pig (*Sus domesticus*), which was observed in just one scat (FO=0.7%). Prey remains of domestic dog and domestic cat were each found once as well. Other prey items like small rodents, birds and fruits were recorded in low amounts.

There was no significant difference in diet between 2018-2019 and 2020-2021 (P=0.835) considering the following prey categories: 'deer', 'wild boar', 'lagomorphs' and 'livestock'. Analysis of the data by season did indicate a significant difference (P=0.003), based primarily on the higher proportion of wild boar and livestock during spring and autumn, respectively. In both cases, this effect was largely attributed to the composition of the diet in 2020. Frequency of occurrence of wild boar in spring 2020 was 61.5% (# scats=13), all of them being juveniles. In spring 2018 and 2019 combined, this was 18.2% (# scats=11), with one out of two being juveniles. Frequency of occurrence of livestock in autumn 2020 was 47.1% (# scats=17). This was 28.6% when

Table 1. Wolf diet of the first settled wolves in Flanders, Belgium, based on 140 scats collected from May 2018 to February 2021, expressed as the frequency of occurence (FO). Season of collection was not known for three scats.

	FO				
Prey items	Winter	Spring	Summer	Autumn	Total
Wild ungulates	90.0	83.3	97.4	83.3	90.0
Roe deer (*Capreolus capreolus*)	78.0	50.0	76.9	54.2	69.3
Fallow deer (*Dama dama*)	8.0	12.5	2.6	8.3	7.1
Unidentified deer	-	-	7.7	16.7	5.0
Wild boar (*Sus scrofa*)	12.0	41.7	25.6	16.7	22.9
Lagomorphs	18.0	16.7	5.1	16.7	13.6
European hare (*Lepus europaeus*)	10.0	4.2	2.6	12.5	7.1
European rabbit (*Oryctolagus cuniculus*)	4.0	12.5	2.6	4.2	5.0
Unidentified Lagomorph	4.0	-	-	-	1.4
Livestock	6.0	8.3	5.1	41.7	12.9
Sheep (*Ovis aries*)	4.0	8.3	5.1	20.8	8.6
Goat (*Capra hircus*)	2.0	-	-	20.8	4.3
Domestic pig (*Sus domesticus*)	-	-	-	4.2	0.7
Domestic dog (*Canis familiaris*)	-	-	2.6	-	0.7
Domestic cat (*Felis catus*)	2.0	-	-	-	0.7
Small rodents	16.0	8.3	2.6	4.2	8.6
Bank vole (*Myodes glareolus*)	4.0	4.2	2.6	-	2.9
Field vole (*Microtus agrestis*)	6.0	-	-	4.2	2.9
Unidentified vole (*Microtus* sp.)	6.0	-	-	-	2.1
Wood mouse (*Apodemus sylvaticus*)	-	4.2	-	-	0.7
Birds	4.0	4.2	-	-	2.1
Fruits and seeds	-	-	-	2.5	0.7
Black cherry (*Prunus serotina*)	-	-	-	2.5	0.7
# prey items	34	50	40	72	202
# scats	24	39	24	50	140

autumn 2018 and 2019 were taken together (# scats=7). Before and after autumn 2020, frequency of occurrence was clearly lower to absent (table 2).

Roe deer appeared to be a stable and frequent prey species throughout the entire study period, whereas prey items identified as fallow deer were found to be more concentrated in time, namely April 2019, August-September 2020 and January-February 2021.

Discussion

The present study provides initial insights into the diet of the first settled wolves in Flanders. Notwithstanding the prevailing anthropogenic influence within the study area, wild ungulates are by far the most frequent prey category. This result is similar to studies conducted in areas characterised by a sufficient prey supply (Zlatanova 2014). Just like in the recolonised areas of Germany (Ansorge et al. 2006, Wagner et al. 2012), roe deer appears to be the dominant prey species in Flanders. This was to be expected as roe deer generally reaches high population densities in semi-natural and heavily modified forest and agricultural landscapes (Gill et al. 1996, Melis et al. 2009). Overall, the composition of wild ungulate communities across Europe is diverse which is clearly reflected in the flexible diet

Table 2. Frequency of occurence (FO) of livestock throughout the study period May 2018-February 2021.

Period	# scats	FO livestock (%)
May 2018 – Feb 2018	15	13.3
Jan 2019 – Dec 2019	36	11.1
Jan 2020 – May 2020	15	0.0
Jun 2020 – Aug 2020	21	4.8
Sep 2020 – Nov 2020	17	47.1
Dec 2020 – Feb 2021	36	8.3

of the wolf. For example, red deer appears to be the main prey in several forest-rich areas of Central and Eastern Europe (Okarma 1995, Jędrzejewski et al. 2000, Nowak et al. 2005). In Scandinavia, the wolf feeds mostly on moose (Müller 2006, Sand et al. 2016). When the smaller-sized roe deer is available at sufficiently high densities however, it usually makes up a large to the largest part of the diet and often becomes positively selected in a multi-prey system (Bunewich 1988, Ansorge et al. 2006, Barja 2009, Nowak et al. 2011, Milanesi et al. 2012, Wagner et al. 2012, Figueiredo et al. 2020). For example, Sidorovich et al. (2011, 2017) conducted an extensive analysis on prey preference in the deciduous woodlands of central-western Belarus (Eastern Europe) where European beaver, roe deer, red deer, wild boar, moose and European bison (*Bison bonasus*) are all abundant. Both European beaver and roe deer appeared to be the preferred prey species. Larger-sized ungulates only became more significant after a sudden decline of the roe deer population. Similarly, the importance of moose as a prey species in Scandinavia is driven by the local population density of roe deer (Sand et al. 2016). This preference is generally explained by a risk-aversive strategy among wolves: the medium-sized roe deer is unlikely to cause severe injuries when predated. Also, the proportion of prey biomass lost to scavengers increases with prey size, suggesting that the actual amount of available food for wolves in both medium-sized and larger prey is more similar, while it is riskier to catch the latter (Sidorovich et al. 2011, Sand et al. 2016). The strong emphasise on roe deer in (recent) literature, additionally indicates that the absence of larger-sized ungulates (e.g. red deer and moose in Flanders) does not necessarily equate to an insufficient prey supply.

Being dependent on only one prey species implies a risk as the population may suffer a decline due to (random) events such as overhunting or unfavourable climatic conditions. A multi-prey system is indeed thought to be more sustainable in terms of food supply (Mech & Peterson 2010). However, the local wild ungulate community is also characterised by wild boar, which was found as a prey item in almost a quarter of the analysed scats. In Europe, this species is often avoided because of the dangerous anti-predator behaviour of adults (Okarma, 1995). Predation of wild boar is therefore mainly focused on vulnerable juveniles in spring (Jędrzejewski et al. 2000, Ansorge et al. 2006, Wagner et al. 2012). Indeed, this was also observed in our analysis, but only during 2020 when the majority of the scats was collected. We believe that a more representative result was obtained in 2020, explaining the absence of this phenomenon in previous years (2018-2019). In spring 2018, only a few scats of a solitary female that just started to settle were collected. In 2019, this female died shortly after she was observed pregnant, again resulting in a low number of scats. Despite a common avoidance, wild boar appears to be the dominant prey species of wolves in certain European regions (Zlatanova 2014). In Italy, this is explained by the high abundance of wild boar and its year-round reproduction. Inexperienced sub-adults are assumed to be an easy and profitable prey after leaving the matriarchal groups in response to a new reproduction event (Heck & Raschke 1980, Mauget et al. 1984, Capitani et al. 2004, Meriggi et al. 2011, Imbert et al. 2016). Year-round reproduction is also observed in our study area (INBO, own observations), indicating the potential importance of wild boar. Of the remaining wild

prey species, mostly lagomorphs contributed to a further diversification of the diet, which in all likelihood reflects a high abundance. Especially brown hare is observed in remarkably high numbers on the heathland of the two military bases 'Kamp Beverlo' and 'Schietveld Houthalen-Helchteren' (personal communication Eddy Ulenaers and Michel Broeckmans).

Livestock made up a distinct component of the wolf diet, although a large part is explained by autumn 2020. It is to our belief that the strong and sudden increase in livestock predation during this period, is caused by the presence of the first developing young which are not yet able to hunt, but still need to be fed. The availability of unprotected livestock was therefore an easy and attractive alternative in case of higher energetic needs. This hypothesis is further supported by the decrease of livestock predation in winter, as the young started to move around with their parents more often, presumably learning to hunt wild prey. Throughout the preceding time period, the amount of livestock appeared to be notably lower to absent, rather indicating opportunistic predation. Hereby, it is noteworthy to mention that the calculated frequency of occurrence of livestock in autumn 2018/19 should not be considered representative due to the small sample size (FO=28.6%, # scats=7). Scientific research points out a general preference for wild prey over livestock if both are abundant. The presence of adequate protection measures further facilitates this relationship (Meriggi & Lovari 1996, Sidorovich et al. 2003 Gula 2008, Meriggi et al. 2011, Imbert et al. 2016, and others). Nevertheless, only 4% of randomly chosen pastures within a defined risk area were sufficiently protected against wolf attacks by the end of 2018 (Holvoet 2019). More recent numbers, by the end of 2020, show that barely 119 of the 1,455 (8%) small livestock owners within a risk area defined by INBO have applied for financial support to safely enclose their animals.

Fallow deer is an ambiguous prey species. On the one hand, (recently) escaped individuals are often observed in the wolf territory. However, several attacks on fallow deer in captivity were reported during the study period. It is not possible to distinguish between these two possibilities solely on the basis of prey remains found in scats. But taking into account the date of collection and officially reported wolf damage, consumption of captive fallow deer seems highly probable during August-September 2020 and January-February 2021. Although there is no data available on the number of escaped fallow deer in the wild, we are confident that their share to the ungulate community is still very low based on camera trap survey (INBO, own observations). Nevertheless, predation may be disproportionally high, as it may concern halftame and easy to catch specimens due to a prior history in captivity (cf. Okarma 1995).

The killing of dogs by wolves is not an isolated case in Europe (Butler et al. 2014 and references herein). This aggressive behaviour is explained by their resemblance, which means that dogs are probably considered to be conspecifics. As such, dogs are seen as intruders within wolf territory or as competitors for prey or potential partners. In addition, dogs are often eaten after being killed, indicating the possibility that they are also perceived as prey (Kojola & Kuittinen 2002, Backeryd 2007). Although the number of cases may increase under conditions of poor prey supply (Sidorovich et al. 2003), dogs are not considered a frequent prey species (Butler et al. 2014). Nevertheless, in certain regions of Spain and Russia it is believed that the wolf suppresses the population of feral dogs, whether as a food source or not (Bibikov 1988, Blanco et al. 1992). Attacks on dogs have been extensively documented in Finland and Sweden by Backeryd (2007). In the period of 1995-2005, 152 official attacks were recorded, 86% of which were on hunting dogs during the hunt. The remaining attacks took place in forests when the dog was unleashed (5%), and in gardens (7%) or were unspecified (2%). Similar results were obtained in Wisconsin, United States of America (Treves et al.

2002). Concerning this study, there were no official records of a wolf killing a dog prior to collection of the particular scat containing dog remains. Escaped and unleashed dogs are not an exception however, as shown by camera trap surveys (INBO, own observations).

Conclusion

This study addresses the necessity to further implement protective measures for livestock, and other captive species such as fallow deer. It also shows the importance of a greater awareness of the dog-wolf relationship. Conflicts about both can strongly steer public opinion with adverse effects on the acceptance of the wolf in Flanders.

Acknowledgements: This study was initiated by the Research Institute for Nature and Forest (INBO). We would like to thank the colleagues of the Agency for Nature and Forest (ANB) Michel Broeckmans, Ernesto Zvar en Eddy Ulenaers, and volunteer Carina De Paepe and her dog Wietse for helping us to collect the scats. We are also grateful to the Belgian Armed Forces for granting us access to the military bases. Next, we would like to express our gratitude to the following people or organisations who helped us to build up a reference collection: 'Animaux en Péril' in Ath, tannery 'Van Schel' in Asse, the non-profit organisation 'Steunpunt Levend Erfgoed' in Wachtebeke, the shelter for birds and wild animals 'SOS wilde dieren' in Geraardsbergen, the shelter for birds and wild animals in Heusden-Zolder, sheep farmers Bert Plasmans & Yuna Himschoot and INBO colleagues of the research group 'Wildlife Management and Invasive Species' and their respective contacts. We would also like to thank Bea De Cupere and Koen Deforce, researchers at the Royal Belgian Institute of Natural Sciences (KBIN), for identifying bone and tooth fragments and pieces of charcoal respectively. We would also like to express our gratefulness to Jolien Van Malderen (Ghent University) for carrying out a first exploration during her internship at INBO. Lastly, we want to address our gratitude to Maria Tóth, author of the atlas 'Hair and Fur Atlas of Central European Mammals', for sharing her overwhelming expertise.

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Samenvatting

Het dieet van de eerste wolvenroedel in Vlaanderen

Sinds de wolf (*Canis lupus*) officieel beschermd is, vertoont de soort een voorzichtig herstel in Europa. Op 3 januari 2018 kwam dan ook, voor het eerst sinds meer dan een eeuw, een wilde wolf in Vlaanderen terecht om er zich vervolgens te vestigen,

meer bepaald in het noorden van de provincie Limburg. Succesvolle reproductie in 2020 leidde uiteindelijk tot de eerste wolvenroedel. Andere zwervende individuen vormen sindsdien een extra aanwijzing voor een blijvende of, op zijn minst, regelmatige aanwezigheid in Vlaanderen. De nabijheid van de wolf in een door de mens gedomineerd landschap kan echter aanleiding geven tot conflict, bijvoorbeeld aanvallen op vee en huisdieren. Om speculatie over de omvang te vermijden, heeft onderhavig onderzoek tot doel het dieet van de wolf in Vlaanderen te beschrijven.

Van mei 2018 tot en met februari 2021 werden 140 wolvenuitwerpselen ingezameld binnen het enige territorium in Vlaanderen. Identificatie van prooisoorten gebeurde aan de hand van micro- en macroscopische haarkenmerken en bot- en tandresten. De resultaten worden uitgedrukt als de frequentie van voorkomen van prooisoorten/-categorieën ten opzichte van het totale aantal uitwerpselen (=FO). Wilde evenhoevigen vertegenwoordigden veruit het grootste deel van het dieet (FO=90,0%) met ree (*Capreolus capreolus*) (FO=69,3%) en everzwijn (*Sus scrofa*) (FO=22,9%) als vaakst aangetroffen prooisoorten. De consumptie van vee was beperkt (FO=12,9%), maar steeg sterk tot 47,1% FO in de herfst van 2020. Dit wordt verklaard door de aanwezigheid van een eerste nest opgroeiende wolven die nog niet zelf kunnen jagen maar wel gevoed dienen te worden. Het beschikbaar zijn van onbeschermd vee is bijgevolg een gemakkelijk alternatief bij een hogere energetische nood. Onderzoek wijst uit dat, indien zowel wilde prooien als vee abundant zijn, er een voorkeur is voor de eerste. Aanwezigheid van beschermingsmaatregelen versterkt en bestendigt deze relatie. Een evaluatie van schapenweides gaf aan dat slechts 4% in de risicozone afdoende beschermd was in het najaar van 2018. Naast vee, werd bovendien eenmaal een hond als prooi geïdentificeerd.

Hoewel de resultaten een rijke basis van wilde prooidieren reflecteren, wordt evenzeer aangetoond dat de hernieuwde aanwezigheid van de wolf verdere inspanningen vraagt om het samenleven te bevorderen. Dit dient in de eerste plaats te gebeuren onder de vorm van meer afdoende maatregelen ter bescherming van vee. Ook wordt de nood aangetoond van een nadrukkelijker bewustzijn omtrent de hond-wolf-relatie. Conflicten omtrent beide kunnen sterk de publieke opinie sturen ten nadele van de wolf.

Received: 11 May 2021
Accepted: 16 June 2021