

WILD BOARS, COMMON BUT HIDDEN INHABITANTS OF BRNO

Jakub Drimaj, Jan Dvořák

*Department of Forest Protection and Wildlife Management, Faculty of Forestry and Wood Technology,
Mendel University in Brno, Zemědělská 3, 613 00 Brno, Czechia*

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Abstract

The wild boar (*Sus scrofa*) is a globally distributed mammalian species that, at high densities, can cause extensive damage to agriculture and forestry, resulting in ecological damage and security risks. Its importance is enhanced by its enormous adaptability and ecological plasticity to a wide range of environmental factors. Across Europe, its presence in built-up areas, where it damages vegetation and property, causes traffic accidents, can transmit diseases and sporadically attacks dogs and humans, is increasingly being addressed. The situation is similar in the Czech Republic. Based on research in the city of Brno, groups of wild boars have also been recorded in the central parts of the city. It has been shown that they are associated with urban green areas, especially areas with many shelters (forest parks, brownfields, cottage territory, etc.).

Key words: urban environment, human-wildlife conflicts, wildlife management, urban mammals, security risk, animal distribution

Introduction

The wild boar (*Sus scrofa*) naturally inhabits forest ecosystems rich in shelter and food resources. During the growing season, wild boars often migrate into agricultural fields, where they have ad libitum access to cover and high-energy food sources in the form of crops. Once these crops are harvested, they return to the forest, utilizing natural resources such as acorns, chestnuts, and other mast-producing species (Cahill et al., 2012).

Thus, the spatial and seasonal distribution of food and shelter plays a crucial role in determining wild boar movement and habitat selection. In addition to natural factors, human activities, particularly hunting management, significantly influence wild boar behaviour (Johann et al., 2020). The placement of artificial feeding sites and areas with high hunting pressure can alter the distribution of individuals, as wild boars are known to rapidly adapt to perceived threats (Drimaj et al., 2021).

These ecological and anthropogenic factors have also contributed to the increasing presence of wild boars in urban environments, a phenomenon that is no longer limited to specific regions but has become a global issue (Cahill et al., 2012). Urban areas offer abundant food sources, such as household waste, gardens, compost piles, and park vegetation. At the same time, these environments lack natural predators and are largely inaccessible to hunters, making them attractive refuges for boars (Stillfried et al., 2017).

Moreover, the expansion of cities—particularly through suburban development that penetrates formerly continuous forest complexes—creates corridors (e.g., wooded ravines and green infrastructure) that facilitate the movement of forest-dwelling animals into urban cores (Wang et al., 2024). As a result, urban wild boars represent not only an ecological adaptation but also a direct consequence of landscape fragmentation, land use change, and urban sprawl.

The consequences of the urbanisation of wild boar are reflected in a number of negative effects in the economic, ecological, and social spheres. Feeding behaviour manifests itself in eroded lawns, flower beds, damaged greenery, damage to fences, soil disturbance, and negative impacts on biodiversity, including nest picking and destruction of vegetation (Ciach et al., 2023). City dwellers are very concerned about possible attacks on their pets while out walking or even on themselves (Wang et al., 2024). The wild boar, as a relatively large animal, can cause serious damage to property in the event of a collision with a motor vehicle or a cyclist (this risk is greatest at night) (Jägerbrand et al., 2018). The risk to health and life is also linked to the

potential risk of disease transmission, especially zoonoses such as toxoplasmosis, trichinellosis, hepatitis, leptospirosis, and others (Massei et al., 2015; Wang et al., 2024; Abrantes and Vieira-Pinto, 2023).

The decision was taken to undertake long-term monitoring of the occurrence and abundance of wild boars in selected types of Brno city environments characterised by abundant greenery.

Materials and methods

The monitoring programme was initiated in March 2023 and was conducted on a monthly basis until April 2025, with the objective of surveying a minimum of 90% of the designated area. The selected area was systematically traversed by the enumerator between 9 pm and 11 pm on each occasion. The enumerator was equipped with a TETRAO Aquila H-35 (Tetrao) thermal imaging device and recorded the number of wild boars observed. The selected areas encompassed the following locations: parks (Lužánky: 50 ha, Špilberk: 56 ha), forest parks (Willsonův les: 81 ha, Bílá Hora: 82 ha), brownfields (Borky: 139 ha, Černovice: 58 ha), cottage territory (Osada u přehrady: 154 ha, Palackého vrch: 125 ha) and suburban forests (Hády: 143 ha, Mariánské údolí: 83 ha).

The relationship between wild boar densities and environment (or environment types, or seasons) was assessed using one-way analysis of variance (ANOVA). All statistical analyses were performed using the statistical software package STATISTICA 12.0 (StatSoft).

Results and Discussion

Wild boar densities varied among locations and environment types ($F_{(4,225)} = 15.916$, $P = 0.00000$, Fig. 1). On average, wild boars were most abundant in suburban forests (0.12 ± 0.12 ind/km²) and in forest parks (0.07 ± 0.08 ind/km²). The high density of wild boars in suburban forests was due to the constant presence of wild boars because of the year-round supply of rest, cover and food, and the possibility of migration to forest complexes farther from the city. Conversely, wild boars were not present in parks at all (Lužánky, Špilberk), as they were isolated islands of greenery in the middle of buildings. A closer analysis of the size of the flocks at individual localities showed the highest density at the Bílá Hora (Forest Park), with an average of 0.14 ± 0.06 ind/km². In contrast to urban parks, these areas of dense and unregulated greenery were located close to the edge of urban development and wild boars, if they happened to visit, were able to adapt to the frequent presence of humans due to the abundance of cover. Due to the absence of hunting pressure, there was a high risk of damage caused by wild boar in the area, as there was no continuous regulation and a rapid increase in numbers could occur at the time of the breeding of the young. Indeed, one adult female gives birth to an average of 4–6 piglets (Drimaj et al. 2020), so the increase of numbers can be very rapid. Regulation here was only due to sporadic mortality in case of collision with vehicles or necessary regulation in case of high numbers (but this is only done at the peak of impact on the environment or attacks of wild boars on humans; Escobar-González et al. 2024). During 2023 there were around 9 wild boars on the site, in 2024 there were already 12 boars and in early 2025 there were 17 boars. Due to documented road mortalities, the rate of increase in wild boar numbers has not been as rapid as it should have been given the high reproductive rate. Due to increasing complaints about the presence of wild boar in 2024 in this area (Fig. 2), several wild boars have been harvested through active hunters in the area. The opposite of the “Bílá Hora” site was the “Willsonův les” Forest Park, which was a very attractive environment but inaccessible to wild boar due to its location in the middle of a development. Relatively low and stable wild boar abundance was also found in brownfields and cottage territories where proximity to the woodland environment was key. Major problems were associated with wild boar occurrence in cottage territories, where they can adapt to abandoned gardens and allotments, from where they venture out into the countryside where they damage flower beds, crops and damage fencing.

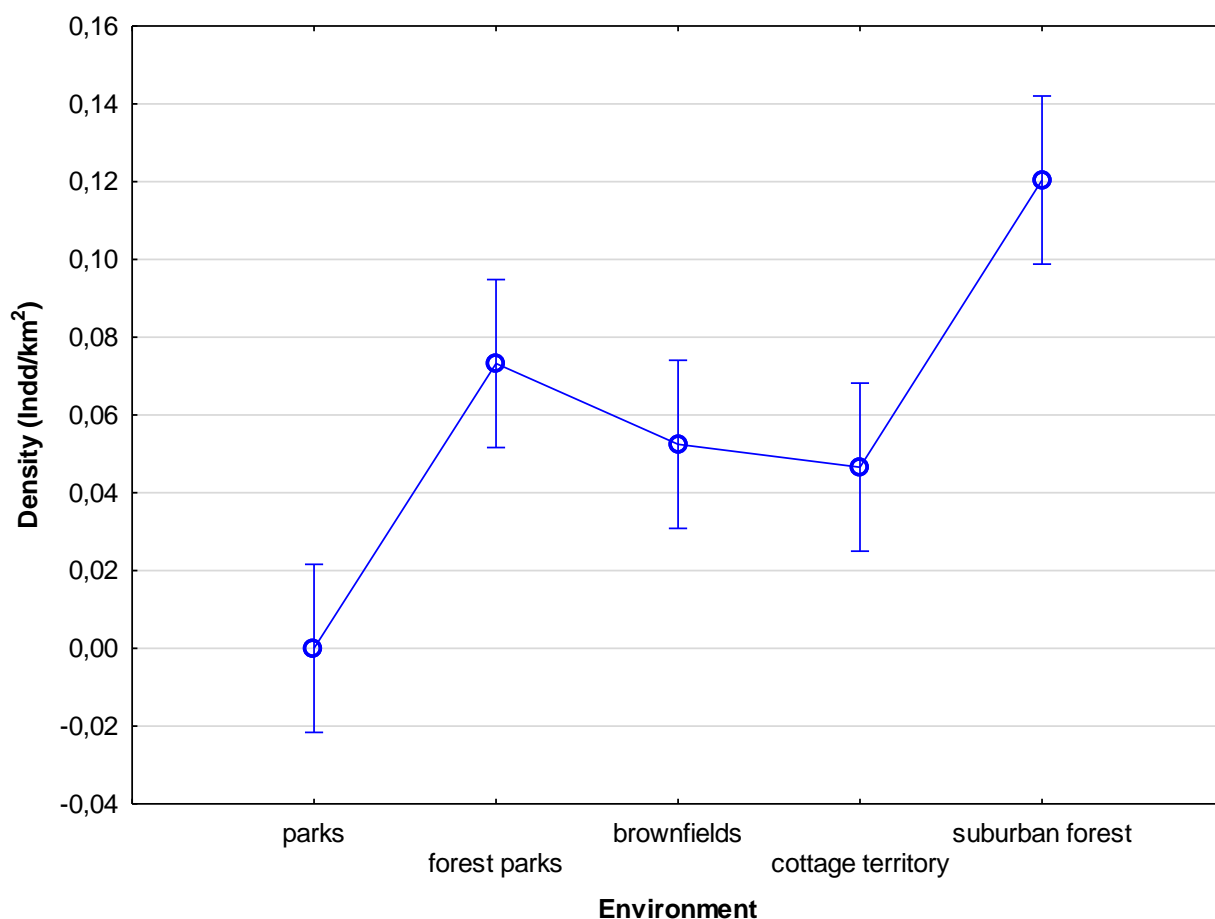


Fig. 1: Density of wild boar by environment type for the whole monitoring period



Fig. 2: Wild boar piglets in the area of interest (photo: Jakub Drimaj, 3. 4. 2024)

Within a year, wild boar abundance was logically highest in spring ($F_{(3,226)} = 7.361$, $P = 0.0001$), when piglets are born and when wild boars are found near towns, where they feed on food that has already been consumed in the open forest. This is followed by a decline in numbers in summer, when wild boars retreat from the vicinity of cities to the wild, and again by an increase in numbers in autumn, when they seek safety near cities due to high hunting pressure in the wild. This effect is compounded in winter.

Conclusion

Wild boars were present in all types of urban green spaces, except parks (+ one forest park), located in the city centre. All other sites were occupied by wild boars throughout the year.

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Souhrn

Prase divoké (*Sus scrofa*) je globálně rozšířeným druhem savce, který při vysoké početní denzitě dokáže způsobovat rozsáhlé škody v zemědělském a lesnickém hospodaření, způsobovat ekologické škody ale i vytvářet bezpečnostní rizika prostřednictvím šíření chorob (např. aktuální Africký mor prasat v Evropě). Jeho význam je umocněn obrovskou adaptabilitou a ekologickou plasticitou vůči celé řadě faktorů prostředí. Například evropskými zeměmi se stále více řeší jeho přítomnost v zastavěném území, kde poškozuje městskou vegetaci, způsobuje škody na majetku, způsobuje dopravní nehody, může přenášet parazity a nemoci, a sporadicky útočí na psi a lidi. Obdobně se tomu děje i v České republice, např. ve městě Brně. Na základě výzkumu byly skupiny divokých prasat zaznamenány i v centrálních částech města. Byla prokázána vazba jejich výskytu na plochy městské zeleně, zejm. oblasti s dostatkem úkrytu (lesoparky, brownfieldy, zahrádkářské kolonie apod.). Navíc, každým rokem se velikost skupin prasete divokého zvětšuje, takže lze očekávat nárůst problémů spojených s jejich rozšířením a početností.

Contact:

Ing. Jakub Drimaj, Ph.D.
E-mail: jakub.drimaj@mendelu.cz

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