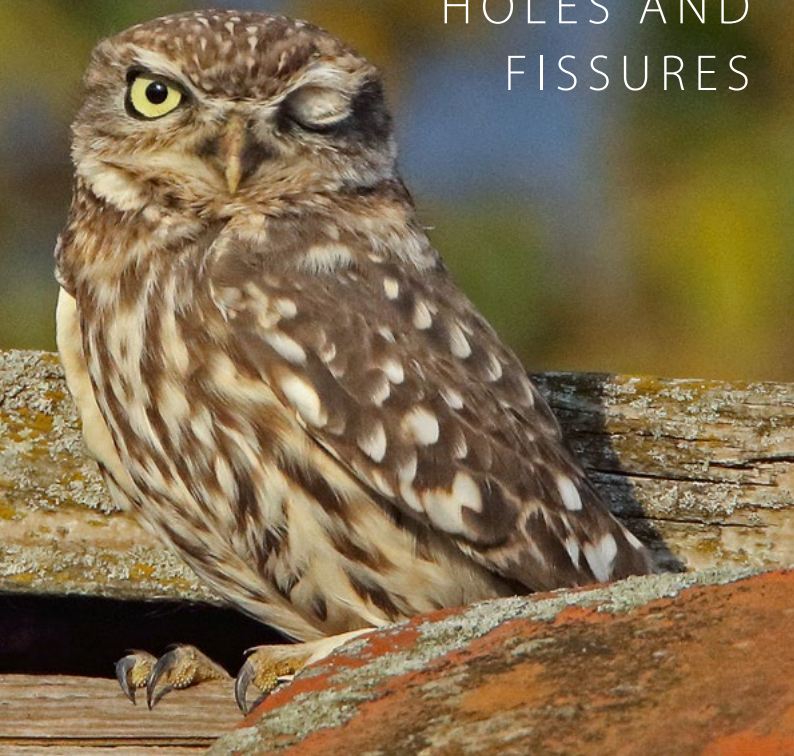


# WINGED NEIGHBOURS

DWELLERS OF ATTICS,  
HOLES AND  
FISSURES



# LEGEND

## • PERIOD OF OCCURRENCE IN BUILDINGS

I–XII	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
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- Occurrence:** In birds, this colour shows the period when they can be found in buildings (some species inhabit buildings also outside the breeding season). In bats, it may include the occurrence of a maternity colony, during spring or autumn migrations, and during hibernation.
- » **Maternity colony of bats:** A group of females which raise young in a common roost. Each female has only one pup, or two at most. After the young are weaned, the bats usually move to other roosts.
  - » **Hibernation of bats:** Because of the lack of food, bats spend the winter in a deep torpor. Single bats or groups of a different size can be found in the roosts.

## • CONSERVATION STATUS

- » **According to the European Red List of Threatened Species \*** – IUCN (International Union for Conservation of Nature) criteria:



CR – critically endangered, EN – endangered, VU – vulnerable, NT – near threatened, LC – least concern

- » **According to the Czech legislation** – three categories of specially protected species are distinguished in the nature conservation act:
  - 1 critically endangered species
  - 2 highly endangered species
  - 3 endangered species

## • POPULATION TRENDS

according to \*)

decline	stable	increase	unknown
↓	–	↑	?

## TYPES OF SHELTERS IN BUILDINGS

Many different places which are used by animals as nest sites or roosts can be found in buildings. They are often damages on the facade or under the roof and are thus threatened due to necessary renovations.



**Fissures between panels** are frequent mainly in yet uninsulated prefab houses. Many species, especially of bats, use even very narrow crevices behind metal cladding or behind different protective or decorative elements.



**Air vents** serving to ventilate flat roofs – there often are relatively large closed hollows behind them, similarly as behind air vents in larders or in outlets of gas heaters in older houses.



**Missing bricks** in older houses, **open niches and semi-open hollows** behind decorative or functional elements in historical buildings, niches with different functions in technical buildings.



**House martin nests** built under ledges on the facade or under the roofs. Such places perfectly substitute natural overhangs and provide nest sites to other species.



**Large closed spaces (attics)** are typical for unused underroof spaces of older buildings with sloping roofs. In modern buildings, they are present in storehouses, underground garages etc.



**Cavities in polystyrene insulation** are created by some woodpecker species which use this material instead of rotting wood of old trees.

## I AM A SYNANTHROPE, I WIN! OR NOT?

Bird and mammal species have been using human settlements for hundreds, some even for thousands of years. We call them synanthropic species, and the process of getting accustomed to human settlements is called synanthropisation. These species may inhabit both their original environment (forests, farmland) and urban habitats.

Many animals colonised towns a long time ago already, in ancient times (common swift, barn swallow, sparrows, little owl) or in the Middle Ages (greater mouse-eared bat, horseshoe bat), others in modern history (blackbird, jackdaw). Some species have been adapting to the life in cities only recently (woodpigeon, magpie, Eurasian jay).

For people, coexistence with animals has meant new food sources (pigeons), symbol of hope (barn swallow, stork) and, last but not least, enlivening of human settlements with bird singing. Animals also benefit from the coexistence: they have gained possibilities which often disappear in the surrounding landscape. This includes food, breeding opportunities (in buildings) as well as higher ambient temperature, which (among others) causes that water bodies do not freeze during winter. Especially in urban areas, adaptation in some species leads even to changes in their feeding habits or migration behaviour, and their shyness decreases. They also face many new threats in the cities, such as the loss of nest sites during renovations of buildings, collisions with glass, noise, increased occurrence of new predators (pets), or direct persecution.

During hundreds to thousands of years of mutual coexistence, birds and bats got used to man, they found new space for living in human settlements. However, we have caused big problems to many synanthropic species and due to our modern life, their populations have been declining. We should not think only of our benefit and comfort. Let's share our settlements with these animals, provide them with sufficient opportunities for breeding and food sources. Let's make glasses and water bodies safer for birds. After all, already our ancestors appreciated the nearness of birds, and they considered nesting of storks or barn swallows at their homes as a symbol of happiness. Moreover, it is known that the presence of wildlife in our surroundings increases our well-being significantly. Let's respect our winged neighbours and try to find ways to harmonious coexistence.



*Forest bird species often inhabit urban parks in the first place, as they are more familiar with this environment which is easier to be colonised. Later on, they spread to built-up areas.*



*Buildings in cities are an attractive breeding habitat especially for the species which originally inhabited rocks (the picture shows a breeding site of the common swift).*

# INHABITANTS OF SMALL CREVICES

## Common swift



**Occurrence:** from residential areas and housing estates to city centres; breeding colonies in underroof spaces or air vents in prefab houses, large flocks of circling birds can be observed above them during summer

**Threats:** loss of breeding opportunities due to insulation of buildings, lack of insects, predation of nests by the stone marten

**How to help:** preserve entrances to nest sites unobstructed when renovating buildings, put up nest boxes serving as new breeding opportunities



## House sparrow



**Occurrence:** villages as well as cities; nests under the roof, in eaves, air vents, in holes where plaster is missing; outside the breeding season, mixed flocks with the Eurasian tree sparrow can be observed in dense shrubs

**Threats:** loss of breeding grounds due to renovation of buildings, lack of food in urban habitats, reduction of dense shrubs serving as shelters

**How to help:** preserve hollows in buildings, change practices of urban greenery management – take care of shrubs and grass (mosaic mowing, flowerbeds, patches of bare ground etc.)



*Where do swifts sleep at night?*

## Common noctule



**Occurrence:** both summer and winter roosts in prefab houses and similar buildings; also in tree hollows; hunts high above ground in parks, gardens and around water bodies (large bat with long narrow wings, body 6–8 cm, wingspan over 30 cm, emerges early in the evening and can thus be easily observed)

**Threats:** insulation and renovation of houses, negative attitude of people, cutting of hollow trees

**How to help:** renovate carefully, preserve cavity trees, put up bat boxes at places of lost roosts



## Common pipistrelle



**Occurrence:** summer roosts in family houses, cottages and other small houses, sometimes also in tree hollows; winter roosts in rock crevices; forages in a fluttering flight near trees, shrubs or buildings and around streetlights (small bat, body 3.5–5 cm, wingspan about 20 cm)

**Threats:** renovation of houses, negative attitude of people

**How to help:** renovate carefully, put up bat boxes at places of lost roosts



There are many of these **fissure-dwelling bat species** living in Czechia. They are usually hidden in crevices and thus cannot be seen in the daytime. They are often quite inconspicuous, but their social calls (used for communication) can be sometimes heard from the roost.



*What size is a hole which a common pipistrelle can squeeze through?*

## INHABITANTS OF NICHES AND LARGER HOLES

### Western jackdaw ↑ LC 2

**Occurrence:** parks and city centers; often searches for food in the rubbish; in mixed flocks with rooks during winter; nests in underroof spaces, unused chimneys and hollows of older trees

**Threats:** loss of cavity trees, renovations of buildings, technical traps such as air shafts and lined chimneys (where they get stuck), predation of nests by the stone marten

**How to help:** preserve hollow trees, put up nest boxes, renovate carefully, install covers on chimneys

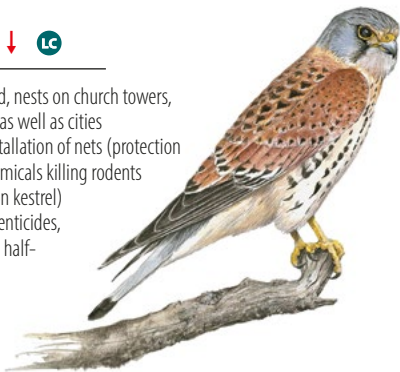


### Common kestrel ↓ LC

**Occurrence:** hunts in open farmland, nests on church towers, balconies or other buildings in villages as well as cities

**Threats:** loss of nest sites due to installation of nets (protection from pigeons), use of rodenticides (chemicals killing rodents which are the main food of the common kestrel)

**How to help:** reduce the use of rodenticides, put up suitable types of nest boxes and half-open nest boxes on buildings



*Which of these species can learn to talk?*



## THEY CAN SQUEEZE IN ANYWHERE

### Eurasian blue tit — LC

**Occurrence:** residential areas, urban parks and other semi-natural habitats; nests in tree hollows, nest boxes, air vents; juveniles leaving the nest box are not yet fully fledged and are fed by their parents

**Threats:** common species, however, its occurrence can be locally limited by the lack of nesting opportunities (hollows) and food (use of insecticides); frequent victim of glass collision

**How to help:** preserve hollow trees in parks, establish wildlife gardens, make glasses safe



### Black redstart — LC

**Occurrence:** from solitary houses and industrial units through city margins to city centres; typically stands on a roof top, quivering its tail, with a coarse song

**Threats:** domestic cats (black redstarts often nest in easily accessible places and forage on the ground), use of insecticides

**How to help:** provide safe nesting, reduce chemical treatment of gardens and parks



? *How many eggs does a blue tit lay?*

## WOODPECKERS – A FAMILY OF CARPENTERS

The only group of birds which are able to create a cavity in the facade of a building. They are well adapted to hollowing hard materials.

### Great spotted woodpecker ↓ LC

**Occurrence:** urban parks, gardens, built-up areas with scattered vegetation; feeds on cone seeds in winter, the cones then accumulate under foraging places

**Threats:** cutting of old trees, collisions with glass

**How to help:** where possible, preserve old trees even in rather poor condition and their torsos, prevent facade damages already during construction (use fibreglass instead of polysterene for insulation, provide critical places [facade corners, attics] with tinsmithing elements or protect such places in other mechanical ways)



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### Green woodpecker – LC

**Occurrence:** urban parks, gardens, built-up areas with scattered vegetation; can often be observed near ant nests, makes holes in the grass with its bill when hunting ants

**Threats:** cutting of old trees, collisions with glass, traffic

**How to help:** where possible, preserve old trees, prevent facade damages already during construction, repair damaged places only during winter and after a thorough inspection of the cavities, safeguard glasses mirroring the vegetation



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*What is a woodpecker anvil?*

## WOODPECKER CAVITIES

They are often used as shelters by other bird species, bats or squirrels. Jackdaws (p. 6) gladly accept a larger cavity made by the green woodpecker, sometimes they even enlarge it. Spotted woodpecker cavities are convenient for smaller hollow nesters – tits, sparrows (p. 4, 7) and the following species:

### Eurasian nuthatch — LC

**Occurrence:** forests and urban parks; nest can be easily identified by the entrance which is plastered with mud (to reduce its size)

**Threats:** lack of nesting opportunities, cutting of hollow trees in parks

**How to help:** preserve hollow trees in parks, put up nest boxes



### Common starling — LC

**Occurrence:** open habitats, villages, residential areas, parks; hollow nester, readily occupies nest boxes; the area under the entrance is often streaked with droppings of juveniles; nests solitarily or in loose colonies

**Threats:** negative attitude of people (large flocks of starlings sometimes cause damage to crops)

**How to help:** when protecting the crops, stretch the nets properly to prevent the birds from getting entangled



*Which bird species, despite its originally large numbers, was hunted to extinction by people?*

## ATTIC DWELLERS

**Barn Owl<sup>1</sup>** ↓ LC 2

**Little Owl<sup>2</sup>** ? LC 2

The following is true for both species:

**Occurrence:** once common owl species, nowadays the barn owl is rare and the little owl on the brink of extinction; open farmland, nests in holes in buildings, in barns, in the past also in church towers

**Threats:** loss of nesting opportunities and food sources, mortality in cavities with smooth walls and unsafe water reservoirs, predation by the stone marten

**How to help:** apply environment-friendly farming practices, increase landscape heterogeneity, enable nesting at places safe from predators



**Barn swallow** ↓ LC 3

**Occurrence:** inside farming facilities, in arcades, in attics with an open window

**Threats:** decline of insects, loss of nesting opportunities (modern air-conditioned farming facilities without free access), removal of nests

**How to help:** enable access to nest sites, put up a platform under the nest to catch droppings instead of removing the nest



How many pairs of the barn owl and little owl are left in the Czech Republic?

## Greater mouse-eared bat — LC 1

**Occurrence:** summer roosts in attics of large buildings (churches, castles, chateaus, old schools), where females hang freely and are easy to see; winter roosts in the underground (caves, mines, cellars); hunts large beetles in forests; large bat with body 7-8 cm, wingspan around 40 cm; emerges from the roost late in the evening

**Threats:** renovations of roofs and attics, loft conversions, closing of roost entrances, disturbance of females raising young, disturbance during hibernation

**How to help:** renovate carefully, preserve entrance points, leave bats undisturbed



I II III IV V VI VII VIII IX X XI XII

## Little horseshoe bat ↓ NT 1

**Occurrence:** summer roosts in attics of large buildings (similarly as previous species), sometimes also in attics of smaller buildings or heated cellars; winter roosts in the underground (caves, mines, cellars); forages in forests and small settlements along margins of vegetation; small bat with body around 4 cm, wingspan over 20 cm, wraps wings around the body during hibernation

**Threats:** renovations of roofs and attics, loft conversions, closing of roost entrances, disturbance of females raising young, disturbance during hibernation

**How to help:** renovate carefully, preserve entrance points, leave bats undisturbed



I II III IV V VI VII VIII IX X XI XII

The above-mentioned species rank among **bats inhabiting spacious roosts**. However, some fissure-dwelling species can also occur in the attics (such as the serotine bat, northern bat, long-eared bats). They are usually hidden in crevices between beams or around chimneys and they are thus much less conspicuous.



*What is the highest known age in the greater mouse-eared bat?*



*Preservation of nest sites and roosts using boxes: bat boxes hidden in the insulation layer (1), a multi-chamber nest box for colonially breeding swifts (2).*

## INSULATION, PRESERVATION OF NEST SITES, BOXES, LEGISLATION

Urban species of birds and bats are significantly affected by the loss of suitable nest sites and roosts as a result of building renovations, in recent decades mainly insulation or replacement of roof covering. However, even smaller interventions, such as closing of an attic window, may have a similarly devastating effect.

All species of wild birds and bats are protected by law (act No. 114/1992 Coll., on nature and landscape protection). Moreover, some synanthropic birds (swift, jackdaw, barn swallow, little owl) and all bats rank among specially protected species according to § 50 of the above act. Legal protection covers not only individuals but also their places of residence. Without permission from a responsible authority, it is prohibited to cause damage to the nests and nest sites, even in the period of absence of their users. This is theory. Despite public awareness has been gradually growing and both governmental authorities and NGOs make significant effort in this issue, in practice nest sites are still destroyed in some cases and juveniles and their parents are even walled up.

In fact, solutions of these problems are well-known and often even undemanding concerning both time and costs. It is only important to solve things in advance and in cooperation with experts. An overlap between the period of construction works and the breeding season is the biggest problem. However, this can be prevented by timely planning of the construction.



*Preservation of existing entrances to underroof spaces. An ideal solution for saddle roofs (left). Previously recommended removal of slats (right) has proved to be unsuitable, the opening should be left completely free, with a peripheral ring 50-70 mm in diameter.*

The best method is to preserve the places of residence used by synanthropic animals – even though in an altered form. The animals are fixated to their homes and cope with the loss only slowly. In the birds which have a relatively short life (7-9 years in the swift) and nest only once per year, a lapse of one or two breeding seasons may affect the numbers of the local population. In fact, preservation of their nest sites is usually well possible. Only in cases when building improvements disable further existence of previously used nest sites, they should be compensated by new ones. Some species (swift, house martin) accept new nest sites with difficulties and slowly, though. And if the substitute does not have appropriate parameters or is placed in an unsuitable way, they do not accept it at all.

It is desirable to create new breeding opportunities, both at already existing buildings and at newly built ones. In general, at least 3-4 m of free space should be provided under the boxes put up for birds and bats. At the same time, they should be installed at places with free arrival space. And which orientation is suitable? Swifts, which spend the warmest period of year in our country, prefer sides of the building which are turned away from the sun, while bats like south-oriented sides. If there is no other possibility and the new nest sites for swifts have to be oriented to the south, they should be placed under the roof overhang so that they are not directly affected by sunshine.



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**Czech Society for Ornithology** is the largest NGO aimed at conservation and research of birds in the Czech Republic. It unites professional and amateur ornithologists, birdwatchers and nature lovers, with over 6,000 members. It works on own and international projects, popularizes and promotes conservation of birds and their habitats. Learn more and get involved in the research and protection of birds at [www.birdlife.cz](http://www.birdlife.cz).



**Czech Bat Conservation Society** coordinates conservation and research of bats in the Czech Republic. It guarantees national monitoring of bat populations, carries out expert studies, implements projects on the conservation of bats. It organizes public awareness events, educational programmes for schools and workshops for authorities, provides expert advice.

[www.ceson.org](http://www.ceson.org)

[www.sousednetopyr.cz](http://www.sousednetopyr.cz)

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Answers to questions:

p. 4: in the air while flying; 5: a 1.5 x 1 cm hole; 6: common jackdaw; 7: up to 13 eggs; 8: place where woodpeckers peck pine cones to pieces in winter; 9: passenger pigeon; 10: around 100 in the little owl, about 150 in the barn owl; 11: 38 years in the greater mouse-eared bat, 41 years in bats in general.

