Agony uncle

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Live and let live

Architects and ecologists are designing homes for humans that also welcome birds, bats and insects. By Paul Miles

For those who live in homes where mice nibble through wires, where pigeons make a mess of eaves, where insects reduce woodwork to dust or, at the most extreme, where foxes enter bedrooms and maul babies or drunken baboons ransack the kitchen (instances reported this year in London and Cape Town), the idea of encouraging wildlife to share our living space seems, well, harebrained.

But the idea is being championed by conservationists, who warn that biological diversity is in peril. The United Nations has launched its decade of biodiversity and, in March, the second Integrated Habitats Design Competition will be launched at the Ecobuild exhibition in London.

In Britain, some bat species have declined by 95 per cent and birds such as swifts have fared similarly. The biggest threat to biodiversity worldwide is habitat loss, often as a result of building development. When, for instance, a tumbledown barn is converted into a home it could mean that bats, barn owls, swallows and swifts all lose theirs. Edward Mayer of Swift Conservation says that recent "progress" in Europe has harmed the birds. "Grants for the renovation of the EU countries' historic towns have led to wholesale removal of swift (and bat) breeding sites as an unforeseen consequence," he says.

Old buildings can provide homes for all sorts of wildlife, which could be your worst nightmare or an added bonus. In his book *Wildwood*, the late writer and environmentalist Roger Deakin described how he "welcomed the sparrows and starlings fidgeting in the thatch" of his "ruin" of a home, and how he was torn between wanting to repair the walls and "foster the passepartout menagerie" with which he lived.

However, it is today's new buildings that offer the latest challenge. In temperate climates, houses are being built to be airtight to prevent heat loss (good for the environment) but this means they lack the nooks and crannies of older buildings, so there are fewer habitats for wildlife (bad for the environment).

That architects are designing houses where birds, bats and insects are made to feel at home with *Homo sapiens* may give some the shivers. However, instead of throwing brickbats, we should welcome this new thinking and install bat bricks, enthusiasts say.

It's now cheap and easy to provide homes for bats, birds and more without impairing the longevity or beauty of the house. The German company Schwegler Natur manufactures hollow bricks designed as bat roosts and bird-nesting sites. They also make homes for solitary-nesting bees to be built into walls. Interiors are designed for the animals' comfort – think textured walls and open-plan living areas with hanging space to suit all sizes. The prefab roosts can be built into walls or roofs to encourage bats (there are approximately 1,000 species worldwide of which 17 are in the UK). There is also a range of bird nesting boxes. The company has sold over 5m units in Europe.

"The idea is that from inside your house, you wouldn't know that you share your home with other animals," says Dr Carol Williams, author of *Biodiversity for Low and Zero Carbon Buildings* (Riba Publishing). The book contains detailed architectural plans showing how birds and bats of many species can be accommodated in our homes without impinging on human residents. "These species have evolved to live with humans," says Williams. "Now, because of the real need to lower the carbon footprint of buildings, we risk endangering biodiversity by concentrating on reducing emissions," she says. "If we do everything for nature except make a home for wildlife, we're not helping."

Encouraging biodiversity in your home can also aid mental health, says Williams. "It's very enjoyable to sit outside with a glass of wine and watch bats flying out at night or hear swifts screaming in summer," she says. "And being in the middle of a healthy ecosystem increases a property's value." Others may worry about droppings, tales of vampires or the possibility of a bat getting caught in the curtains but such concerns are "folklore", she says. Well, she would. Her passion for wildlife may seem, ahem, batty. She even asked her builders to make holes in the new fascia and soffits she had fitted to her Cornwall home, in the hope that bats would roost there. They did.

Britain's most common bat, the pipistrelle, only requires a 15mm by 20mm space through which to enter and roost in a cavity. Once roosting, they, like all British bat species, are protected legally. Professor Brian Edwards, of the Royal Institute of British Architects' Sustainable Futures Group, says that in Britain the legislation has "considerable teeth". "The regulations introduce new offences which could inadvertently be committed by architects engaged in restoration projects," he says. Edwards advises anyone thinking of restoring to seek advice from groups such as the Bat Conservation Trust (www.bats.org.uk).

Biodiverse From above: a beekeeper tends beehives on the roof of architect Justin Bere's London home, a pipistrelle bat, a 'bat brick' in Bere's house and barn owls

Getty, Jefferson Smith, Alamy, Hugh Clark/Bat Conservation Trust

Protecting our wildlife by maintaining or building structures that encourage animals to live with us is something we have done for centuries. In 15th-century Italy, many households built towers for swifts to nest in. Admittedly, the reason was to provide a harvest of young birds for the dining table. In the UK, many homes had dovecotes that provided the larder with meat and eggs, and "bee boles" in the walls – recesses where woven beehives were protected from the elements. The early 20th-century architect Edwin Lutyens built homes with owl boxes in them and wrote whimsically of "the dear big white fluffy thing" he'd seen nesting.

Owls control rodents while peregrine falcons feed on feral pigeons. Bats, house martins and swifts, meanwhile, all eat thousands of insects a day, many of them pests such as aphids and midges.

Few can deny that "nature" enhances urban spaces. In the 1970s, Malaysian architect Ken Yeang was one of the first to involve greenery in urban building designs, with his "bioclimatic skyscrapers". Today, walls and roofs composed of living plants that provide habitats for insects – the base of the ecological pyramid – are increasingly popular. The living walls of the Musée du Quai Branly in Paris, designed by Patrick Blanc, and the living roof of native plants on the California Academy of Sciences, by Renzo Piano, are two recent examples.

Blanc's lush living walls – which adorn buildings worldwide, including London's Athenaeum Hotel – "bring a smile" to all who see them, says landscape gardener Daniel Bell, responsible for maintaining them. It's not just our species they please. "The walls are absolutely alive with animals," he says. "There are countless spiders and insects – stink bugs, flies and bees, snails. Birds feed on them; there are even blackbirds nesting in the walls."

Living roofs and walls can also insulate buildings and reduce noise. In an era of climate change and fast urban lifestyles, we need more of them, says horticulturalist and broadcaster Professor Chris Baines. "Every extra living green surface will help to moderate the urban heat island effect, slow down the rate of rainwater runoff and help to lift the spirits," he says.

"It's unusual for architects, ecologists and engineers to work together to create a built environment that takes biodiversity and ecosystem services into account," says Blanche Cameron, joint organiser of a new annual competition for such projects. The first Integrated Habitats Design Competition, supported by the government body Natural England, attracted 40 entries from architectural practices, ecologists and engineers in six countries. The winner, with a plan for converting a disused railway depot into student accommodation, including bat roosts, bird nesting, living roofs, solar panels and more, was a first-year architecture student from Liverpool University.

One architect who is building green properties with greater ecological benefits is Justin Bere. His London home has roofs of hawthorn and hazel and a wildflower meadow. There is a beehive and bat roosting and bird nesting built into walls as well as all the low-carbon features that owners of a green home would expect, such as solar panels for hot water and electricity.

"If we put a building over nature we have an obligation to put nature back on top," says Bere. "It doesn't cost a lot but we can't live without nature and we don't have any right to try and do so." He has created a space where house sparrows flock to eat aphids on the flowers of common vetch in his rooftop meadow. "I love watching everything – the change of seasons and the wildlife." It must all be a welcome sensory feast for his human neighbours too. Previously the site, encircled by tall terraced houses, was home to a sausage factory. London's (unwelcome) feral foxes probably miss that.

www.ecobuild.co.uk
www.schwegler-natur.com