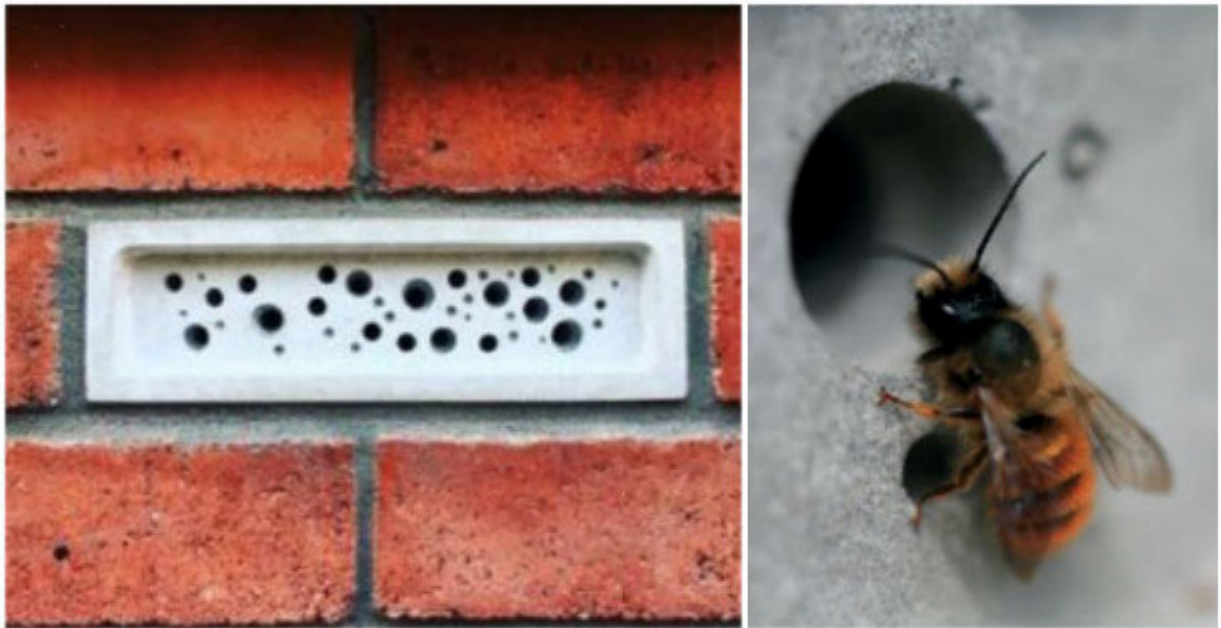


Be kind to bees, build with bee bricks

January 27 2023, by David Bradley



Credit: *International Journal of Sustainable Design* (2022). DOI: 10.1504/IJSDES.2022.10052860

We know that bees are important to natural ecosystems and also to human agriculture and horticulture. They are great pollinators of so plant flowering plant species and are also a source of food and materials we have used for thousands of years, namely honey, honeycomb, and beeswax.

Here's the sting in the tale, though. Bees are in decline. The problem is

partly due to habitat and [climate change](#) but also because of our growing reliance on pesticides for food production. Conservation and rewilding efforts are often stymied by building construction. So, what if we could incorporate bee-friendly habitats into those very buildings?

Writing in the *International Journal of Sustainable Design*, a U.K. research team discusses the design of a bee brick, which can be incorporated into the stonework of a new building, or perhaps even replace some bricks in older buildings. The bee brick is aimed at providing habitat for solitary bees, which are far more common pollinators than the more familiar honeybee.

Kate Christman and Laura Hodsdon of Falmouth University's Penryn Campus and Rosalind Shaw of the University of Exeter's Penryn Campus in Cornwall, explain that there are some 250 species of bee in the U.K. Nine out of every 10 of these species is a solitary bee species, one that does not congregate and swarm with its own kind to build and maintain a hive. And, of the solitary bees around 1 in 20 makes its nest in a cavity. Creating [suitable habitats](#) for these master pollinators should be a priority in construction, especially given that the incorporation of suitable cavities in a number of bricks used in a building could be done relatively easily.

The team's bee brick is a "fit and forget" component of construction. There is no ongoing maintenance and the solitary [bees](#) will find the bricks, use them to nest and represent no threat to the occupants of the building. The team's design has to be durable and strong enough, of course, to substitute for a standard building brick. It would benefit from being low-cost and made from recycled materials.

As such, china clay waste found in abundance in Cornwall is the material of choice the team suggests. Add some granite aggregate and cement as a binder, and the team had the right recipe for their bee brick. Each bee

brick has 18 cavities molded part-way into the otherwise solid structure. There is the potential to have different colors to fit more aesthetically with a given construction project or even to highlight the presence of the bee bricks in a site.

The team explains that "The Bee Brick provides a nesting site for [solitary bees](#), adapting and rethinking how existing building components are used. Made using locally sourced recycled materials, it offers the dual function of being a construction material that also promotes biodiversity."

More information: Rosalind Shaw et al, The Bee Brick: building habitat for solitary bees, *International Journal of Sustainable Design* (2022). [DOI: 10.1504/IJSDES.2022.10052860](https://doi.org/10.1504/IJSDES.2022.10052860)

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