Digital supplementary material to

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Fig. S1: The artificial nest sites made of beech woodblocks used during the field experiment: nest sites with “wide” (A) and “narrow” (B) entrances, no inhabited by ant colonies.

Fig. S2: Entrances to artificial nest sites modified by *Temnothorax crassispinus* ant colonies, using sand and soil. During the field experiment, nest sites made of beech woodblocks (see Fig. S1) were left in April 2018, and collected about three and a half months later.
Fig. S3: Colonies of the acorn ant *Temnothorax crassispinus* are able to dig a cavity in the soil. During the laboratory experiment, the ant colonies were transferred to Petri dishes contained mix 1:1 of dry sand and wet soil, light tamped down, thickness of the layer about 10 mm. There were no nest cavities in the Petri dishes, but small, flat stones were putted on the surface of the layer.

(A) – an entrance to a nest cavity created by the ant colony,
(B) – a nest cavity created by the ant colony under flat stone (the stone is moved away),
(C) – part of a nest cavity created by the ant colony – a tunnel near edge of the Perti dish is visible.