Supporting Information

Bloch et al. 10.1073/pnas.1003265107

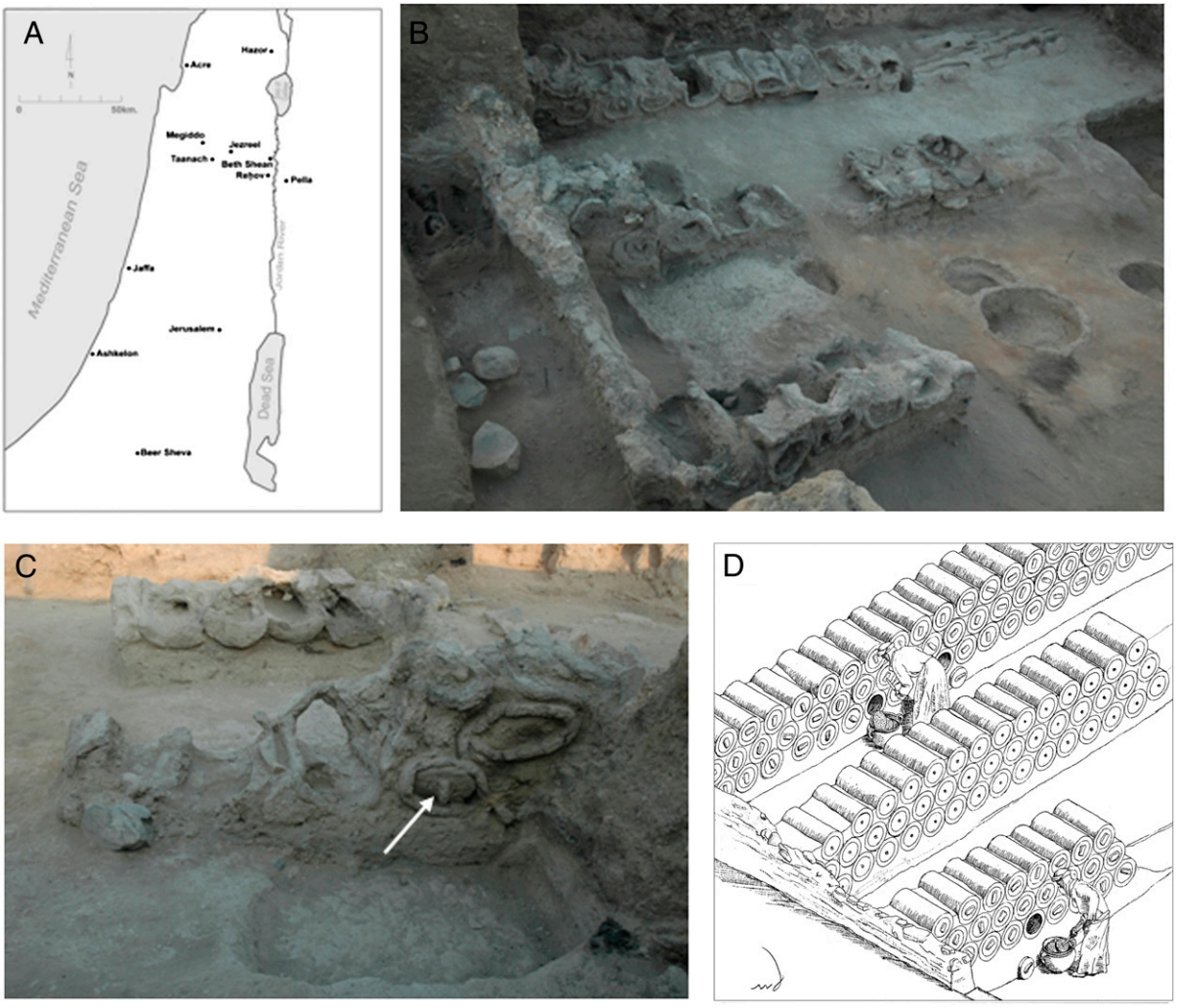

Fig. S1. The ancient apiary at Tel Rehov. (*A*) Map depicting the northern part of the Land of Israel with the major cities known from the 9th and 10th centuries B.C.E. (*B*) An overview of the apiary showing three rows of cylindrical hives. (*C*) A closer view of the central row next to a supporting wall showing three tiers of hives. The arrow points to a removable clay lid. (*D*) A reconstruction of the apiary. (Drawing by Ana Iamim.)

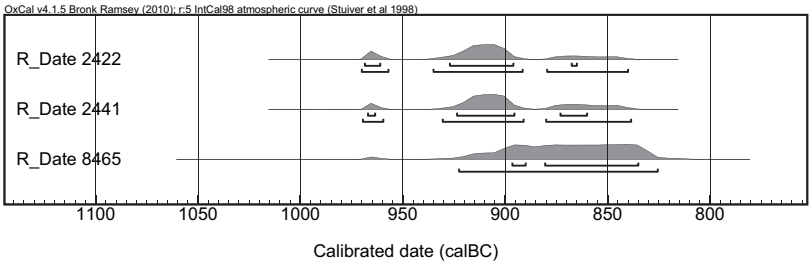

Fig. S2. Spread graph of the ^{14}C average calibrated dates of the three grain samples represented in Table S1 [Prepared by E. Ben-Yosef using OxCal v.4.1.5 software, © Bronk Ramsey 2010 (1).]

1. Bronk Ramsey C (1995) Radiocarbon calibration and analysis of stratigraphy: The OxCal program. *Radiocarbon* 37:425–430.

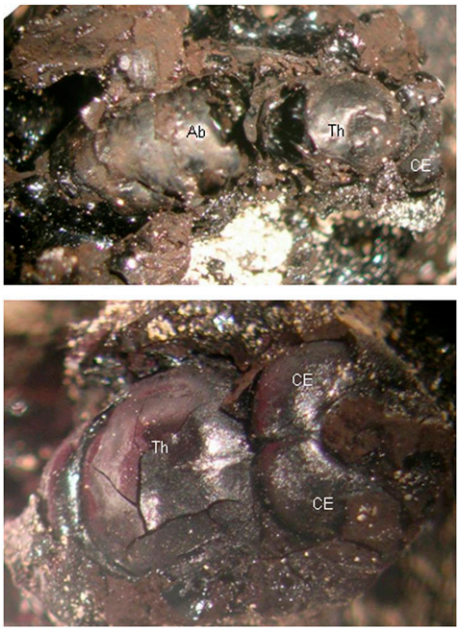

Fig. S3. Charred honeybee corpses embedded in hive remains. (*Top*) Embedded remains of a worker bee showing the dorsal parts of the head (to the right), thorax, and abdomen. (*Bottom*) Embedded remains of a drone (male) bee showing the dorsal parts of the head (to the right) and thorax. Ab, abdomen; CE, compound eye; Th, thorax.

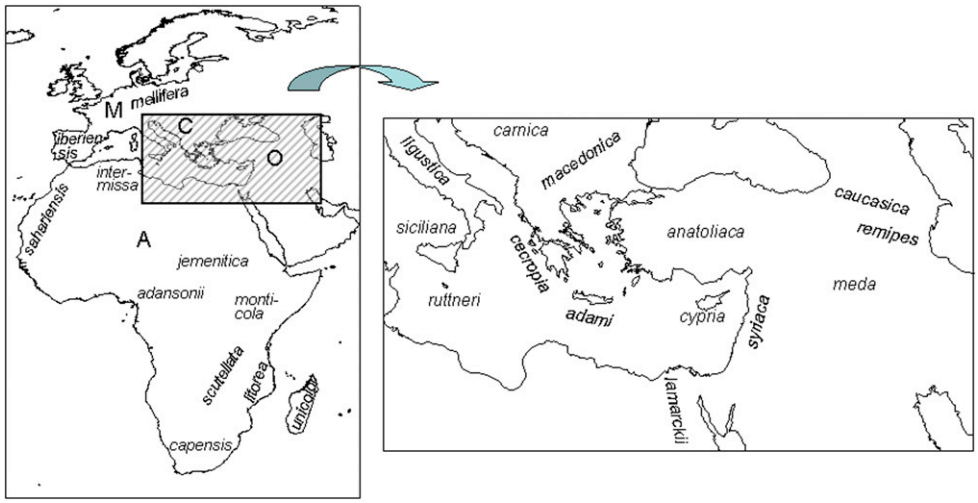

Fig. S4. Distribution map of *Apis mellifera* subspecies. *Inset* shows the area of the Near East and eastern Mediterranean with more details. Subspecies names indicate the approximate center of the distribution ranges, in accordance with Ruttner (1) and Hepburn and Radloff (2). Single capital letters stand for the four evolutionary lineages: A, Africa; C, eastern Europe; M, western and northern Europe; and O, Near East and central Asia.

1. Ruttner F (2003) *Naturgeschichte der Honigbienen* (Frankh-Kosmos, Stuttgart).
2. Hepburn HR, Radloff SE (1998) *Honeybees of Africa* (Springer, Berlin).

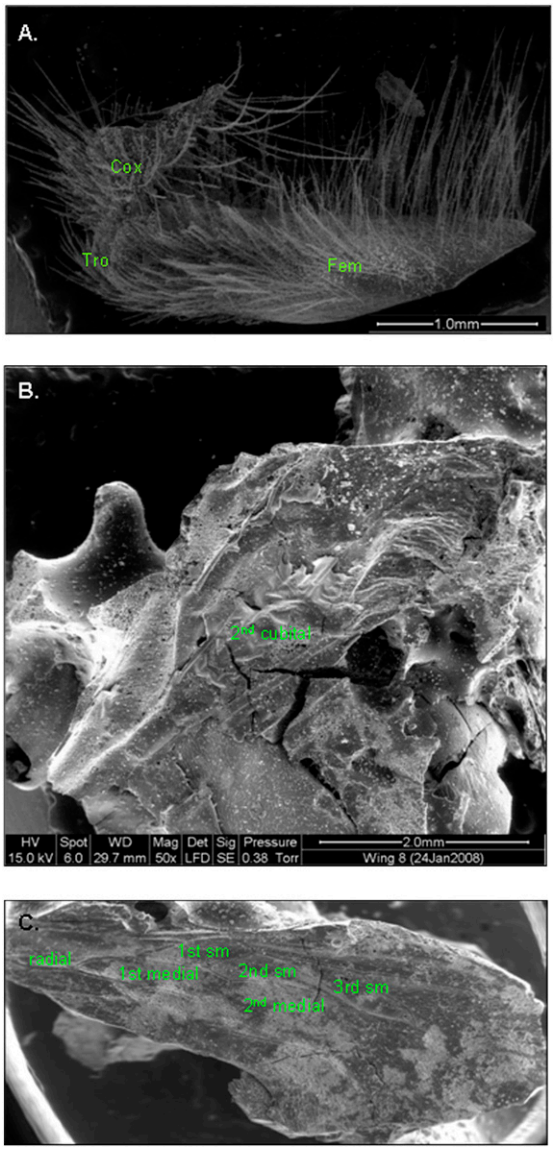

Fig. S5. Specimens used for morphometric analyses. (*A*) An environmental scanning electron microscope (ESEM) micrograph of a worker hind leg, showing femur (Fem), trochanter (Tro), and coxa (Cox). (*B*) An ESEM micrograph showing a portion of a worker front wing. The second cubital cell was used for the wing morphometric measurement. Principal components analyses (PCAs) for the first two principal component (PC) scores are presented in Fig. 3*A* and Fig. S6. (*C*) An ESEM micrograph showing a portion of a worker front wing in which all three submarginal (sm) cells and first medial cells were intact. The third submarginal cell, which differs among present subspecies, was used for morphometric measurement. PCAs for the first two PC scores are presented in Fig. 3*B*).

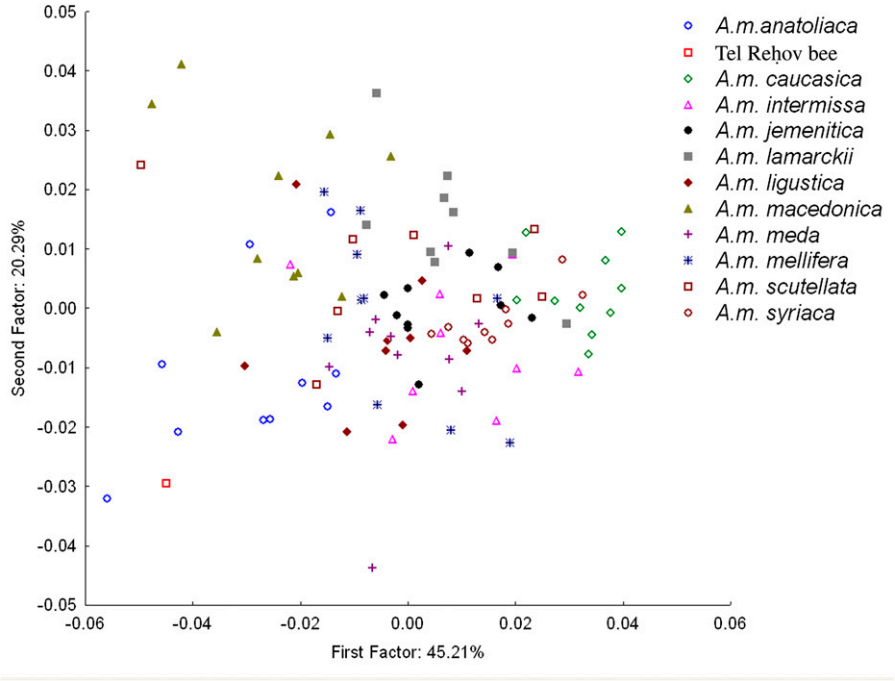

Fig. S6. Scatterplot of the PCA for the second cubital wing cells. The PCA includes individuals from subspecies from all four evolutionary branches of current living *A. mellifera*. The analysis indicates that the Tel Reḥov sample belongs to the Middle East group (O branch). A complementary discriminant analysis rejected ($P < 0.05$) all other subspecies, including *A. m. syriaca*, *A. m. lamarckii*, and *A. m. meda* ($P < 0.0001$, Table 1), but not *A. m. anatoliaca* ($P = 0.994$).

Table S1. Radiometric dates of charred grain from three loci directly related to the beehives at Tel Reḥov

Locus	Basket	Laboratory no	^{14}C Date (B.P.)	δ^{13}C (‰)	^{14}C date B.P. or average used in calibration	1σ calibrated date (year B.C.E.)1998 curve OxCal v4.1	2σ calibrated date (year B.C.E.) 1998 curve OxCal v4.1
2422	24408	GrN-27361	2764 ± 11	−22.11	2771 ± 8	969–962 (7.9%)	971–958 (10.4%)
		GrN-27362	2777 ± 13	−22.15		928–897 (58.6%)	936–892 (64.7%)
		GrN-27412	2785 ± 28	−22.43		868–866 (1.6%)	880–841 (20.3%)
2441	24579	GrN-26116	2810 ± 20	−22.64	all five dates	968–964 (3.1%)	970–960 (6.4%)
		GrN-26117	2775 ± 25	−23.14	2767 ± 7	924–896 (54.3%)	931–892 (60.6%)
		GrN-27363	2745 ± 15	−22.66		874–861 (10.8%)	881–839 (28.4%)
		GrN-27385	2771 ± 15	−22.31			
		GrN-27386	2761 ± 15	−22.37			
8465	84544	GrA-45623	2775 ± 40		2735 ± 25	897–891 (8.4%)	923–826 (95.4%)
		GrA-45624	2690 ± 40			881–836 (59.8%)	
		GrA-45650	2735 ± 35				
Average					2767 ± 6	968–964 (3.1%)	970–960 (6.2%)
						924–896 (55.6%)	931–892 (61.8%)
						873–862 (9.5%)	880–840 (27.5%)

The dates from Loci 2422 and 2441 were published in Mazar et al. (1). They were measured by the proportional gas counting technique. The accelerator mass spectroscopy dates from Locus 8465 were measured in 2009 and are published here for the first time. All dates were measured at the University of Groningen by Johannes van der Plicht in cooperation with Hendrik Bruins from Ben-Gurion University, Israel. Erez Ben-Yosef from the University of California, San Diego helped in preparing the calibrated dates and graph using OxCal v.4.1.5 software [© Bronk Ramsey 2010 software] (2).

1. Mazar A, Bruins H, Panitz-Cohen N, van der Plicht J (2005) Ladder of time at Tel Reḥov: Stratigraphy, archaeological context, pottery and radiocarbon dates. *The Bible and Radiocarbon Dating*, eds Levy TE, Higham T (Archaeology, Text and Science, London), pp 193–255.
2. Bronk Ramsey C (1995) Radiocarbon calibration and analysis of stratigraphy: The OxCal program. *Radiocarbon* 37:425–430.

Table S2. Length of hind leg femur for a bee from Tel Reḥov and for present subspecies

Subspecies	N	Mean	SD	Minimum	Maximum	25% til	75% il	Included in 0.25–0.75	*P* value*
A. m. adami, Ruttner	26	2,74	0,05	2,61	2,80	2,71	2,78	–	0.220
A. m. adansonii, Latreille	124	2,46	0,04	2,33	2,56	2,44	2,49	–	**<0.001**
A. m. anatoliaca, Maa	70	2,70	0,04	2,62	2,84	2,67	2,73	+	0.630
A. m. capensis, Escholz	19	2,52	0,08	2,36	2,72	2,47	2,55	–	0.051
A. m. carnica, Pollmann	153	2,67	0,05	2,53	2,87	2,65	2,70	+	0.886
A. m. caucasia, Pollmann	55	2,75	0,05	2,64	2,86	2,72	2,78	–	0.156
A. m. cecropia, Kiesenwetter	29	2,71	0,04	2,60	2,82	2,69	2,73	–	0.503
A. m. cypria, Pollmann	36	2,62	0,05	2,47	2,76	2,59	2,65	–	0.302
A .m. iberiensis, Engel	60	2,76	0,04	2,64	2,83	2,74	2,78	–	**0.031**
A. m. intermissa, Maa	39	2,67	0,06	2,49	2,84	2,64	2,70	+	0.934
A. m. jemenitica, Ruttner	118	2,36	0,07	2,14	2,48	2,31	2,41	–	**<0.001**
A. m. lamarckii, Cockerell	24	2,42	0,05	2,32	2,53	2,40	2,43	–	**<0.001**
A. m. ligustica, Spinola	58	2,66	0,05	2,58	2,77	2,62	2,69	+	0.653
A. m. litorea, Smith	55	2,43	0,04	2,30	2,52	2,40	2,45	–	**<0.001**
A. m. macedonica, Ruttner	58	2,66	0,04	2,54	2,76	2,64	2,69	+	0.621
A. m. meda, Skorikov	77	2,61	0,05	2,46	2,71	2,57	2,65	–	0.188
A. m. mellifera, Linnaeus	184	2,72	0,04	2,63	2,90	2,69	2,75	–	0.264
A. m. monticola, Smith	138	2,49	0,07	2,26	2,63	2,46	2,53	–	**0.004**
A. m. ruttneri, Sheppard	25	2,63	0,08	2,48	2,79	2,57	2,71	+	0.539
A. m. sahariensis, Baldensperger	15	2,60	0,04	2,53	2,67	2,57	2,63	–	0.057
A. m. scutellata, Lepeletier	110	2,50	0,05	2,37	2,63	2,46	2,52	–	**0.001**
A. m. siciliana, Grassi	49	2,68	0,05	2,54	2,84	2,65	2,71	+	0.969
***A. m. syriaca*, Skorikov**	32	2,58	0,06	2,41	2,68	2,54	2,62	–	0.103
A. m. unicolor, Latreille	15	2,50	0,03	2,43	2,55	2,50	2,53	–	**<0.001**
Tel Reḥov bee	1	2,68							

The subspecies local to Israel (*A. m. syriaca*) and the neighboring subspecies are shown in yellow. The Anatolian subspecies is shown in green, and the Tel Reḥov bee is shown in light blue.

*Probabilities of the Tel Reḥov bee femur length being within the variation range of the respective subspecies, given by the cumulative function of values equally or more extreme than $x = 2.68$ obtained from normalized standard distributions (two-tailed probabilities).