

Fig. S1. Comparison of cumulative active time in untreated control animals and Clothianidin treated animals during the test in which local cue and panorama related location are colocalized. (A) Naïve bees, (B) trained bees. The open bars show the values for untreated control animals, the dark bars those of Clothianidin treated animals. The ordinate gives the mean percentage of active time. Friedman test for repeated measurements was applied to test the difference between the two groups for each quadrant. n.s.: not significant. Friedman test for repeated measurements (with minutes as repeated measurements) was used to test the difference in each quadrant for a particular group. Naïve control group: chi-square = 7.59, p-value = 0.055, trained control group: chi-square = 19.14, p-value < 0.001, naïve treated group: chi-square = 39.27, p-value < 0.001, trained treated group: chi-square = 79.59, p-value < 0.001.

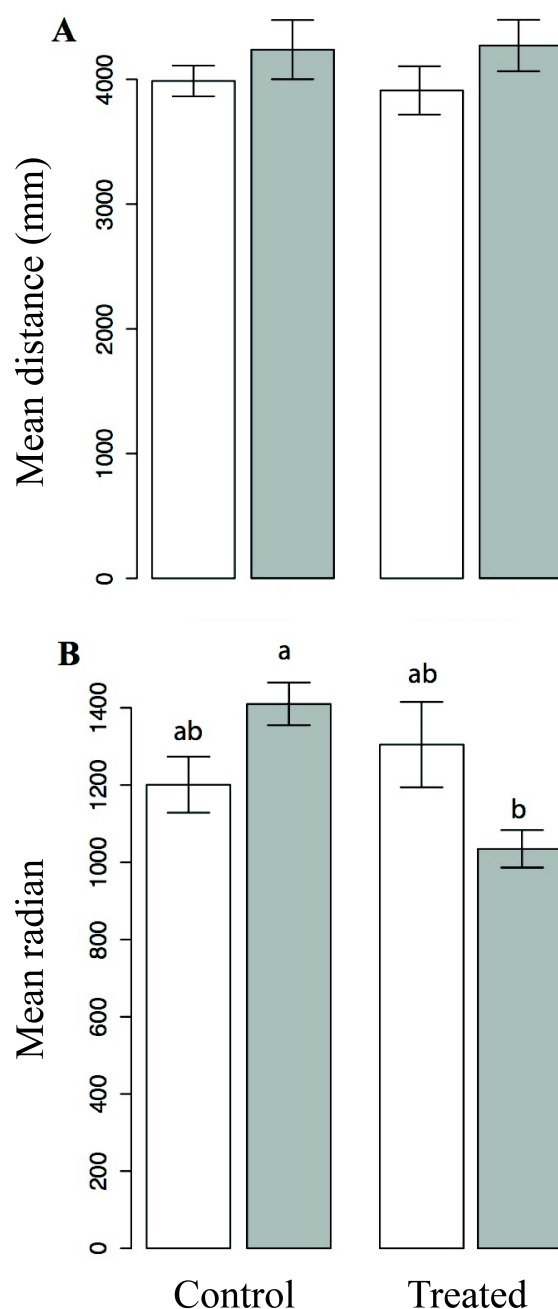
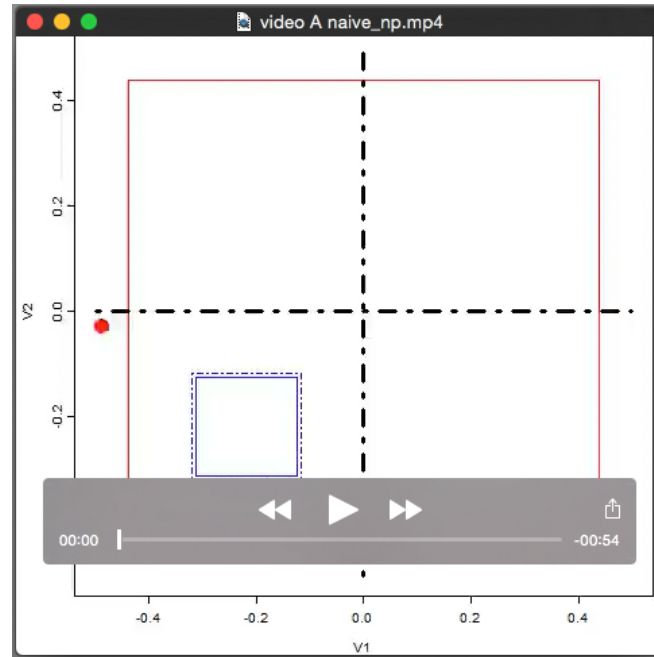
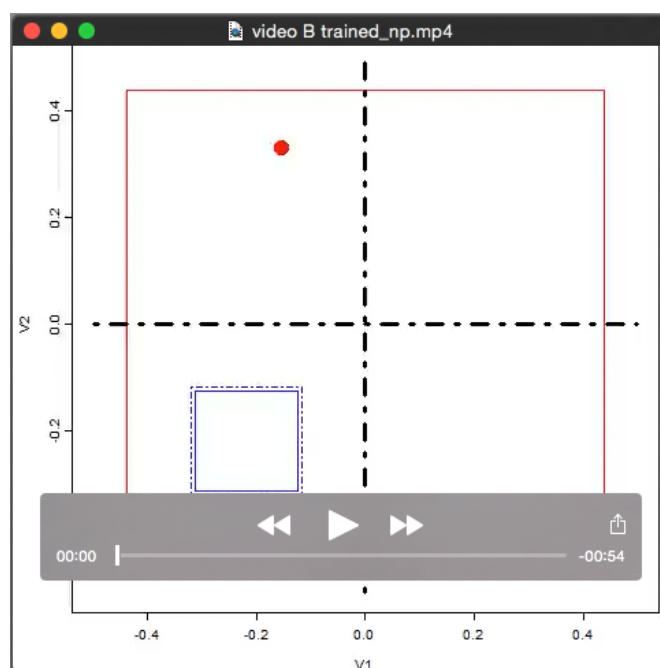


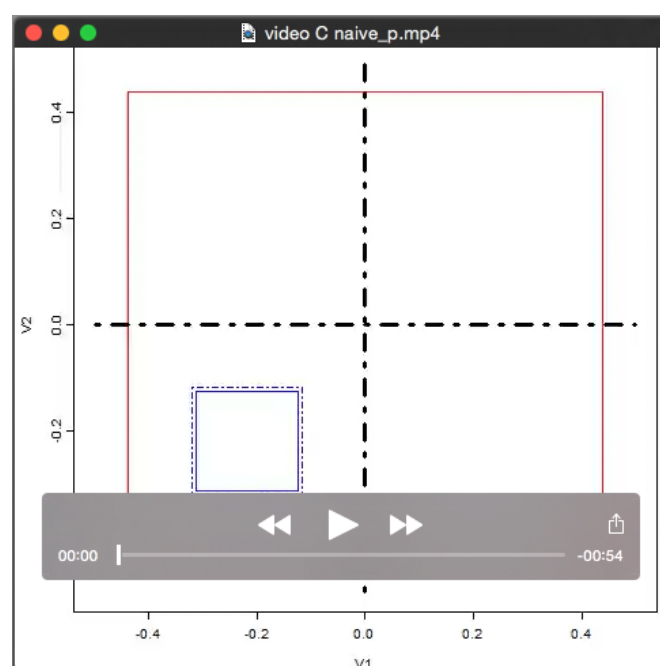
Fig. S2. Comparison of walking characteristics in trained animals during memory retrieval tests. Open bars show the values for naïve animals, dark bars those of trained animals. (A) Mean of the cumulative distance walked during the first two active minutes by animals of each groups (control, treated). Y-axis: distance traveled in mm. Shapiro test >0.01 , the data follow a normal law. Two ways ANOVA results: $F=0.872$, $p\text{-value}=0.46$. The differences are not significant. (B) Mean of the cumulating changing angles of walking trajectories calculated for the first 2 minutes of each control or treated bee (y-axis in radian). Two ways ANOVA results: $F=4.053$, $p\text{-value}: 0.0103$. Statistically significant differences are indicated by different letters (a,b).



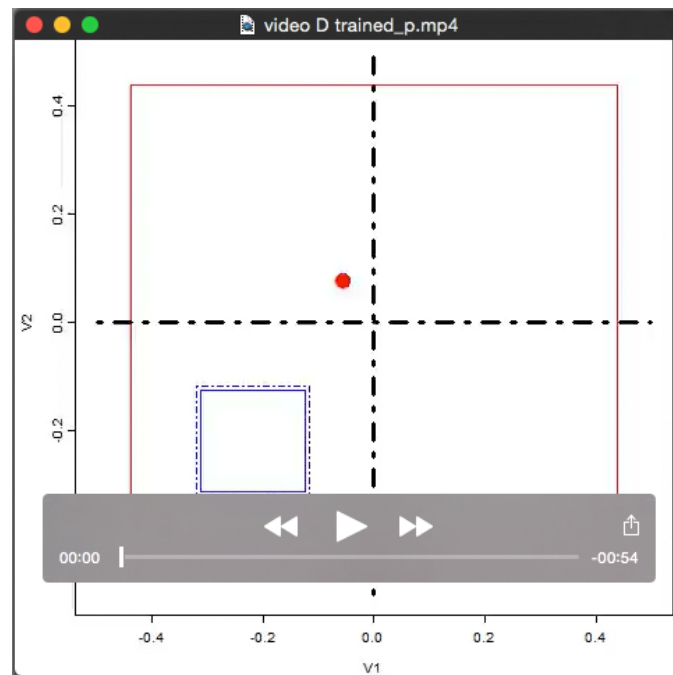
Movie 1. Naïve bee in a control testing condition. Movies show tracks of bees during the first 3 min of the bright phase II of the test. The black hatched cross separates the 4 quadrants, respectively from right to left, from upper part to the lower part: Q2, Q1, Q3, Q4. The red square indicates the limit of the considered tigmotactic behavior, close to the vertical frame (outside the red square). The blue cue is represented by the blue square in the Q3 quadrant.



Movie 2. Tracks of a trained bee in a control testing condition.



Movie 3. Tracks of a naïve bee that has licked pesticide 60 min before the test.



Movie 4. Tracks of a trained bee that has licked pesticide 60 min before the test.