

Thème 1 – Génétique et évolution

1-D – La diversification du vivant

Culture seen in bumblebees

Using the documents, explain to what extent this example of a cultural transmission is surprising.

Document 1: Hints of culture seen in bumblebees

By Elizabeth Pennisi, Oct. 6, 2016.

<http://www.sciencemag.org>, the website of *SCIENCE Magazine*.

For years, cognitive scientist Lars Chittka felt a bit eclipsed by his colleagues at Queen Mary University of London. Their studies of apes¹, crows, and parrots were constantly revealing how smart these animals were. He worked on bees, and at the time, almost everyone assumed that the insects acted on instinct, not intelligence.

Chittka and his colleagues set up a low clear plastic table barely tall enough to lay three flat artificial blue flowers underneath. Each flower contained a well of sugar water in the center and had a string attached that extended beyond the table's boundaries. The only way the bumblebee could get the sugar water was to pull the flower out from under the table by tugging on the string.

The team put 110 bumble bees, one at a time, next to the table to see what they would do. Some tugged at the strings and gave up, but two actually kept at it until they retrieved the sugar water. In another series of experiments, the researchers trained the bees by first placing the flower next to the bee and then moving it ever farther under the table. More than half of the 40 bees tested learned what to do. Next, the researchers placed untrained bees behind a clear plastic wall so they could see the other bees retrieving the sugar water. More than 60% of the insects that watched knew to pull the string when it was their turn. These findings could hint at a rudimentary form of culture in bees.

1: Gorillas, Chimpanzees...

Document 2: A bumblebee pulling a string

