

Exceptional IQ Level of Bees Causing a Buzz among Scientists

Bees are the busiest insects working hard to pollinate crops. These tiny creatures are essential for our food security & biodiversity. Though we all know about their challenging work to gather nectar, proof emerges that they are also aware, clever, and unique beings.

If you've never watched honey bees cautiously, you're missing a significant thing. Looking close as they tenderly twist and uncoil their tightened mouths toward food, you sense that they're eating, however, enjoying themselves. Watch a bit more, and their antennae's reluctant flicks and sags appear to convey a feeling of some sort or another. Perhaps inconvenience or agitation? We swat bees to avoid difficult stings, yet do they feel the pain we cause? A study has revealed that they do, a potential clue that they are sentient—the ability to be aware of their feelings.

Lars Chittka, professor of sensory and behavioral ecology at the Queen Mary University of London, studied the bees for 30 years. In his most recent book, *The Mind of a Bee*, published on 19 July, he contends that honey bees need our security, not because they are valuable for crop pollination and biodiversity, but since they might be sentient creatures - and people have a moral commitment to guarantee their survival.

"Our work and different labs have shown that bees are brilliant. They can count, recognize human faces and learn basic tool use and abstract concepts. He thinks bees have feelings, can design and envision things, and can perceive themselves as unique & distinct from other bees. He reaches these conclusions from studies in his lab with female working drones. "Whenever a honey bee gets something right, she gets a sugar reward. That is how we train them, for instance, to perceive human faces." In this trial, honey bees shown a few monochrome pictures of human faces discover that one is related to a sugar reward. "Then, we provide them with a choice of different faces and no rewards and ask: which do you choose now? And indeed, they can find the correct one out of an array of different faces.

Past exploration has shown bumble bees, and honey bees are clever and imaginative creatures. For example, they figure out the concept of zero and can do simple math. They're generally hopeful while effectively foraging; however, they can become discouraged if immediately caught by a ruthless insect. When a honey bee gets away

from a bug, "her disposition changes; for quite a long time later, she's frightened of every flower," says Chittka.

To see if these emotions incorporate pain, Chittka and colleagues looked at one of the standards ordinarily used for characterizing pain in animals: "motivational trade-offs." Chittka's group gave 41 bumble bees a decision between two high-quality feeders containing a 40% sugar solution and two feeders with lower rates of sucrose. The researchers set the feeders in a testing field on the top of individual heating pads shaded pink or yellow. At first, all the heating pads were switched off; the honey bees each entered the field and sampled the feeders. Then, they needed to taste each one to detect the amount of sugar. All preferred the feeders with the most sugar.

The researchers then heated the yellow pads underneath two of the great sucrose feeders to 55°C (a temperature sufficiently high to make the honey bees think about leaving, yet not so high as to cause injuries); feeders on the pink pads remained cool. For a bumble bee, arriving on a hot yellow pad would be like "touching a hot plate," says lead author Matilda Rose Gibbons, a behavioral neuroscientist and Ph.D. student in Chittka's lab. Yet, honey bees that could withstand the pain would also get more sugar.

Bees Can Imagine the Things –

The bees were likewise capable of envisioning how things would look or feel: for instance, they could distinguish a circle visually, which previously they had just felt in the dark - as well as the other way around. Also, they could comprehend theoretical ideas like "same" or "unique."

Chittka started to understand that a few individual honey bees were more interested and confident than others. "You also find the odd genius bee that shows improvement over the wide range of various people of a province or, for sure, the wide range of various honey bees we've tried.."

Bees Can Show Anxious Behavior –

Honey bees kept showing anxious behavior even after days they had been attacked and sometimes behaved as if they had seen something scary. That is, they reviewed a flower and rejected it even if they saw there was no spider present.

Researchers believe that there is some trauma issue or stress disorder. These little creatures seem nervous, rejecting good flowers even if there is no predation threat. This indicated an adverse condition & anxious behavior in bees. The degree of refined cognition bees display implies it's improbable they feel no emotions at all. "Awareness is about the ability to have sentiments," he says. "Furthermore, what we're seeing now is some evidence that there are these ... emotion-like states in bees."

Chittka himself is "quite convinced" that bees are aware creatures. "We're presenting them to challenges that no bee has at any point experienced in its evolutionary history. But, furthermore, they're tackling them very bravely."