Honeybees are on the rise but demand grows faster

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The notion that a decline in pollinators may threaten the human food supply - producing a situation that has been referred to as a "pollination crisis" - can be considered a myth, at least where honey bees are concerned, say researchers reporting online on May 7th in *Current Biology*, a Cell Press publication. First of all, most agricultural crop production does not depend on pollinators. On top of that, while honey bees may be dwindling in some parts of the world, the number of domesticated bees world-wide is actually on the rise, their new report shows.

"The honey bee decline observed in the USA and in other European countries including Great Britain, which has been attributed in part to

parasitic mites and more recently to colony collapse disorder, could be misguiding us to think that this is a global phenomenon," said Marcelo Aizen of Universidad Nacional del Comahue in Argentina. "We found here that is not the case."

By analyzing data from the Food and Agriculture Organization of the United Nations for temporal trends in the number of commercial bee hives, they found that the global stock of domesticated honey bees has increased by about 45 percent over the last five decades. That increase has primarily been driven by an increased demand for honey from a growing human population, rather than an increased need for pollinators, he added.

But the news isn't all good: The data also show that the demand for crops that rely on insects for pollination has more than tripled over the last half century, suggesting that the global capacity for pollination may still be under considerable stress. These crops include "luxury" agriculture items, now common in any supermarket, like plums, raspberries, and cherries, as well as mangos, guavas, Brazil nuts, and cashew nuts.

"We were particularly astonished when we found that the fraction of agricultural production that depends on pollinators, which includes all of these luxury agriculture items, started growing at a faster pace since the fall of communism in the former USSR and Eastern Europe, and at a much higher rate than the larger fraction of agricultural production that does not depend on pollinators, including wheat and rice, which just follow human population growth," Aizen said. "Although the primary cause of the accelerating increase of pollinator-dependent crops seems to be economic and political - not biological - their rapid expansion has the potential to trigger future pollination problems for both these crops and native species in neighboring areas."

The associated increase in demand for agricultural land could also hasten

the destruction of habitat that now supports hundreds or thousands of species of wild pollinators, which would in turn cause a drop in crop yield, he said.

"Most importantly, decreasing yield by these pollinator-dependent crops surely would imply rising market prices, which undoubtedly would constitute a further incentive for their cultivation," Aizen said. "This situation would create a positive feedback circuit that could promote more habitat destruction and further deterioration of pollination services. The good news is that less-intensively managed agro-ecosystems that preserve patches of natural and semi-natural habitats and uncultivated field edges can sustain abundant and diverse communities of wild pollinators."

Source: Cell Press (news : web)