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Genome of Conifers Remains Stable Over Last 100 Million Years

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By Sarah Miller

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(Photo : Reuters)

A new study reveals that the genome of conifers has not changed much over the last 100 million years.

A team of researchers led by Jean Bousquet, who holds the Canada Research Chair in Forest and Environmental Genomics, analyzed the genome of conifers and compared it with the genome of angiosperms (flowering plants).

Both species of plants evolved from a common ancestor and diverged into different groups around 300 million years ago.

The research team compared the macrostructure of the genome for 157 gene families that are present in both conifers and flowering plants.

They found that the genome of conifers such as spruce, pine and fir have remained stable for the last 100 million years, while the genome of flowering plants have faced several changes over millions of years.

This does not mean that the conifers have not undergone any changes in their genome. They have faced small-scale modifications like gene mutations, but the genome macrostructure has remained stable, said the researchers.

This could mean that there are fewer species of conifers when compared with other plants that have diverged into different species. While there are just 600 conifer species around the world, there are 400,000 species of flowering plants.

"Conifers appear to have achieved a balance with their environment very early," Jean Bousquet, of the Université Laval in Canada, [said](#) in a statement.

"Still today, without artifice, these plants thrive over much of the globe, particularly in cold climates. In contrast, flowering plants are under intense evolutionary pressure as they battle for survival and reproduction," he said.

The findings of the study are published in the journal *BMC Biology*.

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