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Maritime Pine Genomics in Focus

Lieven Sterck, Nuria de María, Rafael A Cañas, Marina de Miguel, Pedro Perdiguero, Annie Raffin, Katharina B Budde, Miriam López-Hinojosa, Francisco R Cantón, Andreia S Rodrigues, et al.

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Maritime pine genomics in focus

This document is available upon request at:
laurent.bouffier@inrae.fr

Abstract

The advent of the next-generation genome sequencing technologies has allowed approaching the sequencing and analysis of large and complex conifer genomes. Maritime pine (*Pinus pinaster* Ait.) is an important economically and ecologically conifer species widely distributed in South-West Europe, which shows a significant genetic and adaptive variability. This chapter takes on the task of reviewing the insights into the maritime pine genome sequencing breakthrough and its impact on downstream analysis. Maritime pine genome sequencing and assembly approaches are described along with the impact of related tools. A section of the state-of-the-art research on comparative, functional, structural and translational genomics aimed at dissecting the genetic basis and the specific regulation of biological processes underlying the expression of traits of interest in maritime pine and other conifers is also described. Perspectives about the impact of these tools as well as additional research approaches are discussed.

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