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創発的研究支援事業　年次報告書

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研究課題名	Modeling plant adaptation in face of climate change using genomics and epigenomics of stress tolerant Mangrove trees 環境変動とマングローブのエピゲノム動態
研究実施期間	2023 年 4 月 1 日～2024 年 3 月 31 日

研究成果の概要

Since the beginning of my FOREST project (Apr. 2023) I have successfully extracted the DNA from 2 other mangrove species (*Rhizopphora stylosa, Kandelia obovata*) and sequenced the genome, using PacBio-Hifi long read sequencing. I then de-novo assembled and annotated the genome. As for Hi-C sequencing, the 3 species of mangroves (*Bruguiera gymnorhiza, Rhizopphora stylosa, Kandelia obovata*) are being processed and library preparation is under preparation. These annotated genomes are the prerequisite of the downstream epigenetic analyses.

In order to study the epigenetic stress memory, I have also done the DNA extraction and whole genome EM-seq sequencing for 96 samples (48 from *Bruguiera gymnorhiza*) and (48 from *kandelia obovata*). I have analyzed the data for the 48 samples from *B. gymnorhiza* and the results are very exciting. I also have extracted the RNA from the same samples and have sequenced them. Next I will analyze the data to investigate the association between expression of the genes and methylated regions of DNA.