

MICRO-INTERNSHIP

The complete chloroplast genome of topotype material of the coast live oak *Quercus agrifolia* Née var. *agrifolia* (Fagaceae) from California

Mentor: Dr. Jeffery R. Hughey

STUDENTS:

Adam N. Garcia

Jennifer Hernandez Ramos

Aileen G. Mendoza

Asmahan Muhrram

Jessica M. Vidauri



HARTNELL COLLEGE



coast live oak *Quercus agrifolia*

Quercus agrifolia Née, the California live oak or coast live oak, is an evergreen originally described by Luis Née from Monterey, California, USA. The species was said to have sessile axillary fruits and glabrous leaves that were broad, ovate, subcordate and toothed. *Quercus agrifolia* is distributed from northern California to Baja California, Mexico where it occurs in valleys and slopes in mixed-evergreen forest and woodlands at elevations less than 1,440 meters. More than thirty oak chloroplast genomes have been

sequenced (7, 8, 9), however the *Q. agrifolia* genome has not been deciphered. In this study, we assembled and characterized the complete chloroplast genome of var. *agrifolia* to contribute to the bioinformatics and systematics of this variety and subsection *Agrifoliae*. The genome is 161,283 bp in length, encodes 132 genes and has a high-level of gene synteny to other Fagaceae.