

Mar 18, 2023

Tetiaroa Vegetation Sampling

DOI

<https://dx.doi.org/10.17504/protocols.io.261ge314yl47/v1>



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Protocol Citation: Sage Moloney, Kenechi Elvis Obiorah, Erica Garibay, Allea Eimers 2023. Tetiaroa Vegetation Sampling. protocols.io <https://dx.doi.org/10.17504/protocols.io.261ge314yl47/v1>

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Protocol status: Working

We use this protocol and it's working

Created: March 18, 2023

Last Modified: March 18, 2023

Protocol Integer ID: 79006

Keywords: tetiaroa vegetation sampling measurement, native woody species, woody species, herbaceous plant species, plant growth, seedling recruitment, herbaceous species, coconuts on the motu ahuroa, tetiaroa, rat eradication program, effect of rat eradication program, species, coconut, students with the uc berkeley island sustainability program, uc berkeley island sustainability program

Abstract

Measurement of seedling recruitment for four native woody species, the shade cover of four herbaceous plant species, and coconuts on the Motu Ahuroa in Tetiaroa were conducted by students with the UC Berkeley Island Sustainability Program. The four woody species we observed were *Pisonia*, *Pandanus*, *Guettarda*, and *Ipomoea*. For the herbaceous species, we observed *Asplenium*, *Boerhavia*, *Microsorium*, and *Portulaca*. Once we completed our data collection in each transect, we compiled our data to see the effect of rat eradication programs on plant growth.

Guidelines

Have picture identification of the woody and herbaceous plant species (especially the seedling stages as these may look different from adult plants)

Wear closed-toe shoes, long sleeves, and pants

Brush shoes off before arrival on the motu to prevent the introduction of invasive species

^ Do NOT bring fruits

Stay hydrated, put on bug spray

Be cautious about where you step so you don't kill seedlings

Materials

Field tape measure

3 1-meter sticks

Observation documentation materials



Safety warnings

- ⚠ Dense vegetation, wear light long sleeves and pants and closed-toe shoes to protect against pandanus spines and mosquitoes
- Coconut trees were full of fruit, watch for falling coconuts
- Sunburn

Ethics statement

No animals or persons were harmed in the process; unfortunately, seedlings were harmed.

Before start

Thoroughly clean shoes and clothes to avoid transferring seeds to Ahuroa motu.

Arrive at pre-existing transects.

Understand what plant species are being studied and how to identify them.



- 1 Find the marked transects using a GPS and/or flag markers.
- 2 Use the measuring tape to lay out a 25 m transect from the first marker to its respective end marker.
- 3 Beginning with left or right side of the transect, measure a 1mx1m plot.
- 4 Within this 1m² plot:
 - 4.1 For woody seedlings: identify and count seedlings in the given area, recording how many are present.
 - 4.2 For herbaceous species: Estimate—using a visual assessment—plant coverage over the given area as a percentage.
 - 4.3 For coconuts: Record number of fallen coconuts and whether a fallen coconut is dead or sprouting. If sprouting, record the amount of leaves sprouting from the coconut.
- 5 Continue to next 1mx1m quadrant along the transect until you reach the end; total quadrants should equal 24.
- 6 Repeat steps 3-5 for the opposite side of the transect.

Protocol references

From the work of Dr. Jean-Yves Meyer.