

# *Nervilia strangens*



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# Introduction



*Nervilia Trangensis* is a small terrestrial orchid and a local medicinal plant of Trang Province. This species requires specific soil and environmental conditions and is commonly found in humid areas near water sources. At present, it is found only in Thung Khai Botanic Garden and Khao Chong Botanic Garden. It has a distinct growth pattern, flowering in the dry season and producing leaves at the beginning of the rainy season. This study aims to analyze soil conditions affecting the density of *Nervilia Trangensis*.



# Objective

The objective of this study is to compare the physical and chemical properties of soil, as well as the population size of *Nervilia trangensis*, between Ton Noi Waterfall and Ton Pliu Waterfall in Khao Chong Botanical Garden, Trang Province.



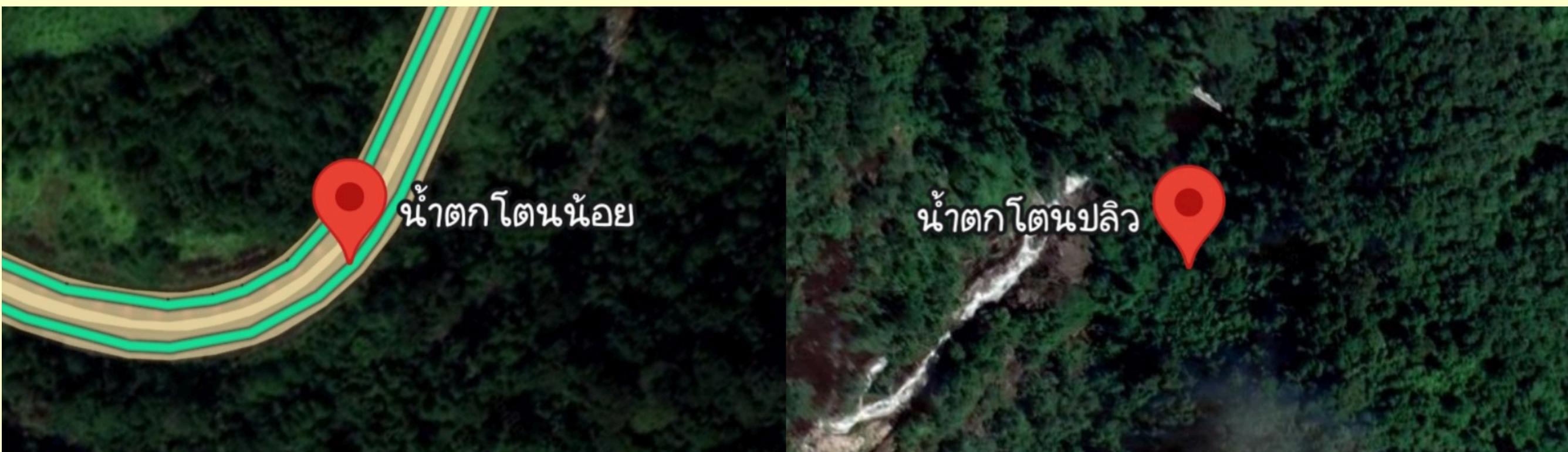
# Research Hypothesis

The physical and chemical characteristics of the soil at Ton Noi Waterfall and Ton Pliu Waterfall are significantly different, which directly impacts the population density levels of *Nervilia triangensis* in these respective areas.



# Research Methodology

Soil samples were collected from Khao Chong Botanical Garden, Na Yong District, Trang Province. Two study sites were selected: Ton Noi Waterfall and Ton Pliu Waterfall. At each site, soil from five points was combined into one composite sample. The samples were air-dried for two days and sieved before analysis.

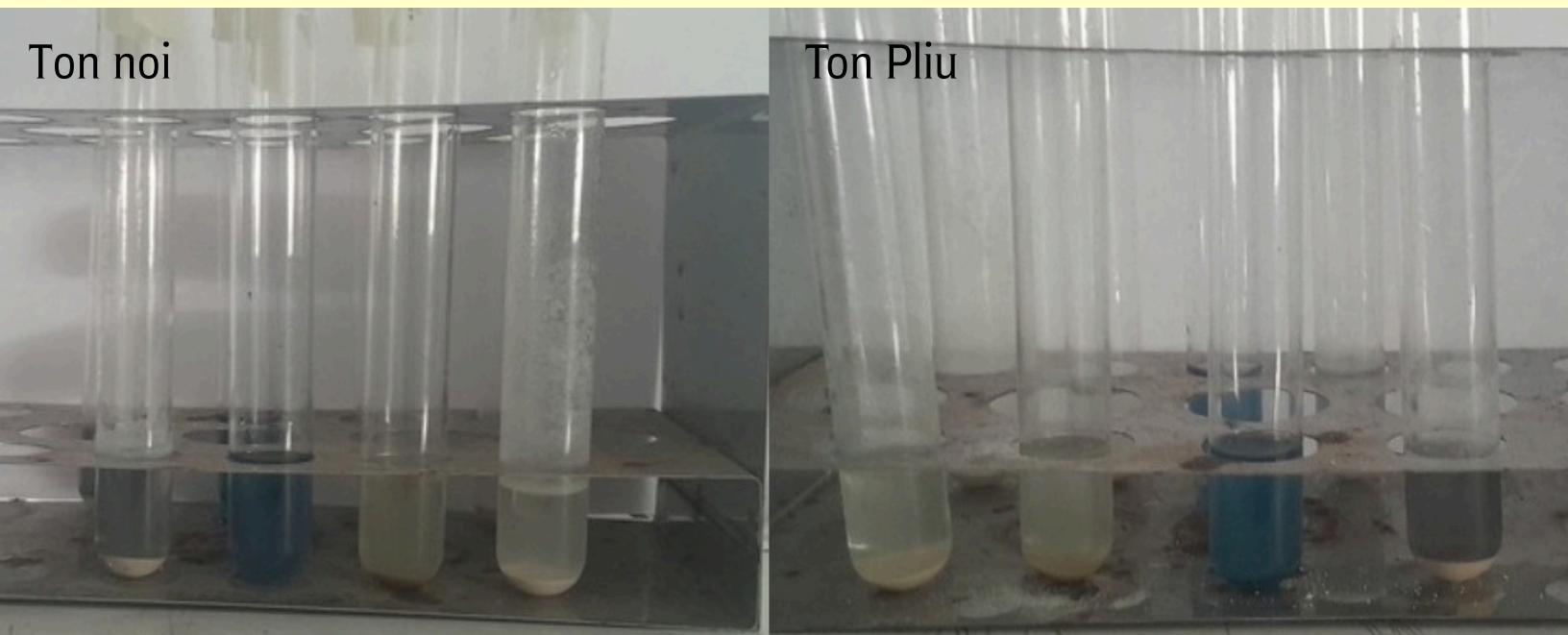




Soil Physical Properties Analysis



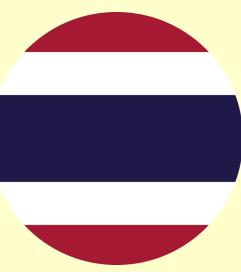
Population Density of *Nervilia trangensis*



Soil Chemical Properties Analysis



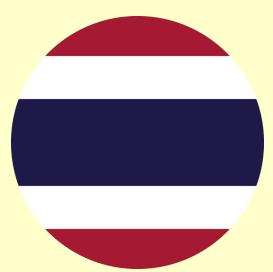
# Research Results



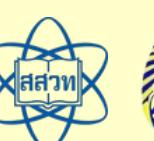
**Table 1:** Physical properties of soil at Ton Noi and Ton Pliu Waterfalls, Khao Chong Botanic Garden, Trang Province.

Physical Property	Ton Noi Waterfall	Ton Pliu Waterfall
Temperature (°C)	29–30	21–27
Moisture Content (Level)	1	3
Light Intensity (Lux/LM)	600	450

**Table 2: Soil NPK nutrient levels and pH values at Ton Noi and Ton Pliu Waterfalls. .**



Chemical Property	Ton Noi Waterfall	Ton Pliu Waterfall
<b>Nitrogen (N)</b>	Trace	Trace
<b>Phosphorus (P)</b>	Trace	Low
<b>Potassium (K)</b>	Medium	Trace



**Table 3:** Population density survey of *Nervilia trangensis* using 1 m quadrats across five sampling points.



Sampling Point	Ton Noi Waterfall (Plants)	Ton Pliu Waterfall (Plants)
1	3	6
2	0	2
3	1	1
4	0	5
5	5	1



# Summary of research results



The study found that soils at both Ton Noi and Ton Pliu Waterfalls are sandy but differ in environmental conditions. Ton Noi exhibited higher soil temperature, lower moisture, and slightly acidic soil (pH 6), whereas Ton Pliu showed lower temperature, higher moisture, neutral soil (pH 7), and lower light intensity. Nutrient levels at both sites were generally low. The population survey indicated that *Nervilia trangensis* was more abundant at Ton Pliu Waterfall (15 individuals) than at Ton Noi Waterfall (9 individuals), suggesting that cooler and more humid conditions may better support the species.



# Data Entry

Soil Temperature	
Measured Date:	2025-12-22
Organization Name:	Sawat Rattanapimuk
Site ID:	409359
Site Name:	Khaochong Botanic
Country Name:	Thailand
Country Code:	THA
Latitude:	7.55776
Longitude:	99.77772
Elevation:	68.5m
Measured At:	2025-12-22T06:00:00
Solar Measured At:	2025-12-22T12:40:00
Depth Level:	10 cm
Soil Current Temperature:	21 °C

Show on Map