

# Advent of Calathea Plants and Its Taxonomy Amidst Covid19

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**Abstract:-** People worldwide are turning to the garden to convert their boredom and anxiety during the pandemic. Calathea plants are one of those trending plants that most plant collectors collect due to their attractive leaf venation. Studying its taxonomy helps to preserve its species. Thus the study entitled *Advent of Calathea Plants and Its Taxonomy Amidst Covid 19* aims to determine Calathea plants' taxonomy through the Leafsnap mobile application. Also, to assess its mental and health benefits to those plant collectors. Ten respondents were randomly selected, and pictures of calathea plants were taken to process and identified in leaf snap mobile applications. Seventeen varieties of Calathea plants were identified from the ten respondents. These are *Calathea picturata*, *Calathea rufibarba*, *Calathea lancifolia*, *Calathea roseopicta* (corona), *Calathea roseopicta* (Dottie), *Calathea makoyana*, *Calathea zebrina*, *Calathea louisae*, *Calathea warszewiczii*, *Calathea ornata*, *Calathea majestic*, *Calathea Bella* (mosaic), *Calathea concinna*, *Calathea lutea*, *Calathea setosa*, *Calathea undulata*, and *Calathea bachemiana*. As to the mental and health benefits of collecting plants, most respondents say that they always feel cheerful when gardening, while two of them say they sometimes feel positive when taking care of plants. Most of them always improved their mood, relieved their stress and anxiety, and enjoyed physical relaxation when taking care of plants, while a few of them often improved their mood, relieves anxiety, and felt physical relaxation.

**Keywords:-** *calathea plants, plants health benefits, advent of calathea.*

## I. INTRODUCTION

Plants form an essential part of life on earth and play a significant role in various areas, such as medical science and environmental science. A wide variety of plants have been named and recorded, according to statistics, approximately 350,000 species of plants exist on earth. A gardening craze dubbed "plantdemic" has spread across the Philippines. After coronavirus, restrictions fueled greenery demand, sending plant prices soaring and sparking a rise in poaching from public parks and protected forests. The stress of lockdown and financial pressure caused by the pandemic has prompted many Filipinos to seek solace in their gardens,

earning themselves the nicknames "plantitos and plantitas," or plant uncles and aunties. (Inquirer.net November 12, 2020) One of the trending indoor plants is Calathea, also known as a Prayer Plant because of its nocturnal movements; at night, the plant's leaves fold upward, giving the appearance of praying hands. Calathea (syn. Goepertia) is a genus of plants belonging to the family Marantaceae. There are several dozen species in this genus. Native to the tropical Americas, many of the species are popular as pot plants due to their decorative leaves and colorful inflorescences in some species. They are commonly called Calathes's or (like their relatives) prayer-plants. The Calathea houseplant has plenty of benefits that will make it a favorite addition to your jungle. As well as providing entertainment by moving throughout the day, it is an excellent air purifier. Plants play a crucial role in the lives of all living things. The risk of extinction exists for many plants. Hence many botanists and scientists are working in order to protect plants and plant diversity. Plant identification is the essential part of studies carried out for this purpose. In order to identify plants more accurately, Leafsnap mobile application was used. Associate Professor Xiao Feng, an expert in Urban Health and Environment, agreed that plants brought positivity to people's lives. A/Prof Feng engages with communities and analyses data to better understand how green spaces improve people's health and wellbeing. Thus, the researcher aims to determine Calathea plants' taxonomy in President Quirino Sultan Kudarat and assess its health and emotional impacts on the plant collectors amidst Covid 19.

## II. METHODOLOGY

### A. Research design

This research utilized Quantitative Descriptive research design. Quantitative data was drawn from the data collected in identifying Calathea plants using Leafsnap applications and through the use of questionnaire that assesses their perceptions as regards as to its health and emotional benefits.

**B. Respondents of the Study** Respondents of the study was randomly selected from 10 Purok of Barangay Poblacion President Quirino sultan Kudarat 1 respondent per Purok was identified as respondents of the study.

### C. Instruments

Leafsnap mobile application was utilized to identify calathea name and variety. This application can currently recognize 90% of all known species of plants and trees, covering most of the species you will encounter in every country on Earth. It also has a review of 4.7 Survey questionnaires also utilized as instruments it was adopted and modified from the research entitled Plantito Plantita and its health and emotional Impacts. Permission from the researchers was taken.

D. Statistical tools The data collected was analyzed statistically through frequency distribution and percentage. As to the survey questionnaire analysis, survey coding was done before analyzing the data collected.

Data Collection Procedure The approach for species identification using a picture of a plant in with the buildin camera of a mobile device and analyze it with an installed ,recognition application to identify the species or at least to receive a list of possible species if a single match is impossible.

### III. RESULTS AND DISCUSSION

Genus	Family	sample
Calathea picturata	Marantaceae	3
Calathea rufibarba	Marantaceae	3
Calathea lancifolia	Marantaceae	3
Calathea roseopicta (corona)	Marantaceae	3
Calathea roseopicta (Dottie)	Marantaceae	3
Calathea makoyana	Marantaceae	3
Calathea zebrina	Marantaceae	3
Calathea louisae	Marantaceae	3
Calathea warszewiczii	Marantaceae	3
Calathea ornata	Marantaceae	3
Calathea majestica	Marantaceae	3
Calathea bella (mosaica)	Marantaceae	3
Calathea concinna	Marantaceae	3
Calathea lutea	Marantaceae	3
Calathea setosa	Marantaceae	3
Calathea undulata	Marantaceae	3
Calathea bachemiana	Marantaceae	3

Table 1:- The taxonomy of Calathea plants Identified through Leafsnap mobile Application

Seventeen varieties of Calathea plants (Marantaceae family) were identified Using leaf snap application and verified with costa farms article if the name given was correctly identified. Three sample pictures were taken from Calathea leaf and run in the leaf snap mobile application.

Profile	Frequency	Percentage
Gender Male	2	20%
Female	8	80%
Marital status Married	7	70%
Widow	2	20%
Single	1	10%
Employment employed	7	70%
Business	2	20%
Unemployed	1	10%
Monthly income: (5000-25,000)	8	80%
( Below 5,000)	2	20%
Reasons for being plantito/plantita		
Enjoy taking care of plants	8	80%
Like what they saw in social media	2	20%

Table 2:- Socio demographic profile of plant collectors

The table above shows that 80% of plant collectors are female, and 20% were male. 70% were married, 20% are widows, and only one is unmarried or single. In terms of employment status, 70% were employed, while 20% had a business as their income source, and only 10% were unemployed. In terms of monthly income, 80% receiving an income within the range of (5000-25,000) while 20% below 5000 monthly incomes. Their reasons for being a plant collector during pandemic 80% says they are enjoying taking care of plants. 20% say they like what they see on social media. The results revealed that most plant collectors are having a stable income while only a few were receiving below 5000 a month. The majority also were enjoying taking care of plants. The study that supports this claim stated that the effect of nature in the home and the workplace stimulates both the senses and the mind, improving mental cognition and performance. Brethour et al (2007).

Conditions	Frequency	%
<b>How do you feel about this pandemic?</b>		
Anxious	5	50%
Unsafe	3	30%
Fine	2	20%
Sad	1	10%
<b>Help them to feel positive?</b>		
Always	8	80%
Sometimes	2	20%
<b>Improved mood</b>		
Always	8	80%
often	2	20%
<b>Relieves stress &amp; anxiety</b>		
Always	7	70%
Often	2	20%
Sometimes	1	10%
<b>Give physical relaxation</b>		
Always	7	70%
Sometimes	2	20%
Often	1	10%

Table 3:- Health and emotional impacts of Calathea plants

The results revealed that during the pandemic, 5 out of 10 respondents were anxious, three feel they were unsafe, two said they were fine, and one feels sad. 80% of the respondents always feel positive when collecting plants, and 20% sometimes take care of plants to feel positive. 80% of them through gardening always improved their mood, and 20% often improved their mood. In terms of relieving stress, 70% say it always relieves their stress and anxiety, and 20% often relieve their anxiety, and 10% sometimes relieve their anxiety. In giving physical relaxation, 70% of respondents says always, 20% sometimes, and 10% often give them physical relaxation. The Journal of Health and Psychology in 2012 reported the first research-based evidence demonstrating that gardening promotes relief from acute stress. Positive mood was fully restored after gardening (Van Den Berg et al., 2011).

#### IV. CONCLUSIONS AND RECOMMENDATIONS

##### A. Conclusion

Based on the results, the conclusion is as follows:

Calathea Plants could relieve emotional stress in Pandemic be - like. The beautiful venation and its attractive leaf color bring a calm ambiance to most plant collectors' homes, making them feel better during the lockdown. Thus, preservation of its variety is a significant contribution in ecological aspects and its health and emotional impacts.

##### B. Recommendation

- Promote collecting and preservation of plants.
- Spread awareness on the gardening health and emotional benefits.
- Conduct a similar study with a wide area and more respondents for a good results.

#### REFERENCES

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