Materials and Methods

Because the kalo plant loses its turgor very quickly after it has been harvested, all pictures had to be taken in the field. The pictures of the leaves had to be taken quickly because they would wilt and change color if left on the black background in the sun too long.

The camera used was a 35mm. Pentax and the film was Kodak ASA 64. I had no photography experience prior to this project so you will notice that the slide quality and lighting differs from one days shooting to the next.

The ruler was included in the pictures of the leaves and petioles not for specific reference; but, only to give an idea of the size of the leaf when the picture was taken. The ages of the plants varied from 6-12 months, so not all pictures were taken at the same stage of maturity. The color and leaf shape do not vary much with the age of the plant.

I chose to use black cloth for a back drop because of its neutrality and low glare. Greens and reds showed up well also.

The pictures of the whole plant are meant to show orientation of plant height, position, spread, angle of leaf blade to petiole, and; position of the petiole in

relation to the plant.

The back and front of the leaf were included to display any distinctive coloration or markings.

Often, the base of the petiole had the most distinctive markings. Some plants look very similar in leafshape and color and can only be distinguished by the color at the top of the corm which can range from white, red, pink, to purple. Unfortunately this area is not very clear in the slides, but, is explained in detail in Whitney's descriptions.

Whitney's descriptions include all the morphological characteristics:

1) Petiole
2) Leaf blade
3) Corm
4) Inflorescence
5) General characteristics: Height, position, rigidity, etc.

As these descriptions were published by an Agricultural bulletin, they also include information on distribution, yield, resistance to disease, poi quality, and hardiness. This is very useful information for anyone interested in kalo farming in Hawaii. Other inclusions which I found interesting from an ethno-botanical point of view are:

Along with other varieties not included in Whitney's book.

These others can be found at the Keanae Arboretum and in the private collection of Akima Ah Hee at Opihikao, Hawaii. There are other private collections on Kauai and Molokai, but the extent of their collection is unknown to myself.

Pictures and descriptions of the other varieties could not be included in this report because the plants need to be observed throughout their entire growing cycle for an accurate and detailed description such as Whitney has provided.

It is my hope that this project will enable collectors and researchers to quickly identify any kalo variety as one that already exists in a collection or a new variety that should be collected, studied, and propagated.

To anyone who is planning to use this project, I would suggest getting a copy of Whitney's book. I have only used the descriptions of 62 varieties. There are 84 covered in his book including Japanese, Chinese, Samoan and Tahitian varieties. There is also excellent information on Botany and History, a key to Taro varieties, and a number of lists grouping kalo varieties according

to morphological characteristics, usage, habitat and maturation.

This project is put together in such a way that it can be easily expanded if and when new species are added to the collection. The picture layout is simple to reproduce using a dark cloth as a background.

If anyone is interested in adding to this project or would like more information about it. Please write or call me.

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Discussion

It should be understood that the 62 varieties included in this project are by no means the only remaining native varieties of kalo left in Hawaii. Although it is true that many varieties have already become extinct, there are others which had not been found at the time of Whitney's collection and study, and were therefore not included.

Whitney estimated amount of native varieties is 150-175, assuming 50% synonymy from 300 names.

My personal estimate, resulting from my research is perhaps 80-90 species. The Lyon Arboretum is missing 9 of the varieties listed in Whitney's book.

1) Aweu
2) Lauloa Palakea-ula
3) Papakole-koae
4) Hinupuaa
5) Laaloa
6) Lauloa Uliuli
7) Lihilihi Molina
8) Pikoele
9) Mana Okoa

I have evidence that at least 4 of the missing varieties are being cultivated on Hawaii and Maui.

1) Laaloa
2) Aweu
3) Lauloa Palakea-ula
4) Lihilihi Molina

1) Origin and derivation of name

2) Distribution

3) Use

I decided to emphasize "origin and derivation of name" before the rest of the descriptions, because I felt that it often explained or clarified the Hawaiian name given to that variety. It should be understood that this is the only change I have made to Whitney's original description.

In instances where more than one name for the same plant was found, the most widely used was chosen, and, the others were included below it in parenthesis.

You will notice that there are no diacritical marks on any of the Hawaiian names published in Whitney's descriptions. I didn't want to change the original description so I put the corrected orthography on each slide.

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