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Study on Distribution and Medicinal Values of Wild Orchids
in Matu Pe Township, Southern Chin State



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ချင်းပြည်နယ် တောင်ပိုင်း မတူပီမြို့နယ်အတွင်းရှိ သစ်ခွမျိုးစိတ်များပျံ့နှံ့ပေါက်ရောက်ပုံနှင့်
ဆေးဖက်အသုံးဝင်ပုံများကိုလေ့လာခြင်း

မြင်မြင့်စန်း၊ လက်ထောက်သုတေသနအရာရှိ
နွေးမွန်မွန်အောင်၊ တောအုပ်ကြီး
ထိုက်စံစိုး၊ တောအုပ်ကြီး
ယွန်းမိမိကျော်၊ သုတေသနလက်ထောက်- ၃
သစ်တောသုတေသနဌာန

ချင်းပြည်နယ်၊မတူပီမြို့နယ်အတွင်းရှိ နေရာ(၃)နေရာမှ စုစုပေါင်းမျိုးစု(၁၇)မျိုး၊ မျိုးစိတ် (၅၃)မျိုးတို့ကိုစုဆောင်းခဲ့ပါသည်။ ၎င်းတို့အနက် မျိုးစိတ်(၃၂)မျိုးမှာ ဆေးဖက် အသုံးဝင်ကြောင်း တွေ့ရှိရ ပါသည်။ တိမ်းဆီးကျေးရွာမှ မျိုးစိတ်အများဆုံး စုဆောင်း ရရှိပြီး အများဆုံး မျိုးစိတ်မှာ *Dendrobium* ဖြစ်ပါသည်။ ထို့အပြင် ဒေသခံများ အသုံးပြုသော ဆေးဖက်ဝင် သစ်ခွမျိုးစိတ်အချို့နှင့် ထိန်းသိမ်း ကာကွယ်ရန် လိုအပ်ပုံများကို လေ့လာ တင်ပြထားပါသည်။

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Abstract

A total of 53 plant species, belonging to 19 genera were observed in study areas. Among them, (32) species have medicinal value. The largest number of species is *Dendrobium* species and most of the species were collected from near the forest of Taine Si village. Moreover, some of the medicinal orchid species were using by the local people and, needed for conservation statues are presented in this paper.

Key Words: orchid species, medicinal uses, conservation

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Study on Distribution and Medicinal values of Wild Orchids in Matu Pe Township, Southern Chin State

1. Introduction

Orchidaceae is one of the largest families of flowering plants in the world. They comprise somewhere between 18,000 and 25, 000 different species. Orchids are distributed all over the world and grow in nearly every habitat, ranging from tropical rainforest to semi- desert, temperate, grassland and arctic tundra. However, by far the largest concentration is found in the tropics, particularly in mountainous regions. Myanmar is still endowed with diverse forest resources. Although a recent revision of all flowering of Myanmar lists 11,800 species in 273 families (Kress et al. 2003) and current estimates range from 13,000- 15,000. Plant families which are particularly diverse are Orchidaceae, Zingiberaceae and Dipterocarpaceae.

. According to (Kress et al. 2003), 841 orchid species in Myanmar but about 800 orchid species and 150 genera are currently known in Myanmar (H. Kurzweil & Saw Lwin, 2014). They are important aesthetically, medicinally and also regarded as ecological indicators (Joshi et al., 2009). Several orchid species are cultivated for their various economic uses especially in floriculture. Orchids are grown primarily as ornamentals and are valued as cut flowers because of their exotic beauty and their long lasting blooming period (Hew et al., 1997). Though orchids are grown primarily as ornamentals, many are used as herbal medicines, food, and other cultural value by many different cultures and tribes in the different parts of world (Rao,1999) Though large population of orchid is still confined in their natural habitat, in many parts of the world their number is decreasing due to their high demand and population pressure. Many orchid species are threatened due to their habitat destruction and indiscriminate collection. At present, the orchids also figure prominently in the Red Data Book prepared by International Union for Conservation of Nature (IUCN). In fact, the entire family is now included in Appendix-II of Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), where the international trade is strictly controlled and monitored.

Historically, Chin people inhabit the area near the forest, forest patches, and forest boundary, and they are more concentrated on the rural hilly areas. Orchids which are getting lost or becoming less available because of habitat destruction and deforestation. Population growth, lack of conservation knowledge etc. or new generation do not care for it through affected by the

modernization are also effect on orchids destruction. Economic point of view, illegal collection and selling of wild orchids by domestic, along with increasing consumer demand for orchids and most of the orchid species are endangered in their native habitats.

Therefore, there is urgently needed to prevent deforestation, habitat destruction and indiscriminate collection by orchid's lovers and exploitation by traders. The distribution of the orchids species with in township boundary are important as well as study on uses and medicinal value of orchids are required for documentation.. Hence, this study consists of two major components; (1) collection, identification and distribution of wild orchids and, (2) uses of some orchid species as medicine in Matupe township of Southern Chin State.

2. Objectives

The objectives of the study are:

- To collect, identify and document the wild orchid species as permanent specimen for herbarium
- To study the distribution of orchid species and the information on uses and medicinal value of orchid species

3. Literature review

The history of orchids might start with their uses in the medicinal purpose. Chinese were the first to cultivate and describe orchids (Li H *et al.*, 1996). These plants first received recognition in the herbal writings of China and Japan 3,000 to 4,000 years ago, and they were the first to describe orchids for medicinal use (V. Balasubramaniam, and M. Murugesan, 2004).

Orchids are long known for their medicinal value. It is believed that the Chinese were the first to cultivate, describe and use orchids as early as 200 BC(Rao, A. 2000).

According to the report of J.T.Atwood,(1986), medicinal orchids belong mainly to genera: *Anoctochilus*, *Bletilla*, *Calanthe*, *Coelogyne*, *Cymbidium*, *Cypipedium*, *Dendrobium*, *Ephemerantha*, *Eri9*, *Galeola*, *Gastrodia*, *Gymnadenia*, *Habenaria*, *Ludisia*, *Luisia*, *Nevilia* and *Thunia*.

In India, the Ayurvedic medicinal system uses formulations based on orchid species. *Ashtavarga*, a group of eight medicinal plants includes four orchid ingredients, namely

Habenaria edgeworthii Hook.f. ex Collet, *H. intermedia*, *Malaxis acuminata* D. Don, and *M. muscifera* (Rao, A. 1999). *Encyclia citrina*, used by natives on infected wounds was described in the earliest literature. *Laelia autumnal* is for coughs; *Stanhopea hernandezii* for sunstroke; *Arpophyllum spicatum*, *Bletia catenulate* and *Epidendrum pastoris* for dysentery. Different species of *Cypripedium* were used in North America by different ethnic groups for its sedative and antispasmodic properties and to counter insomnia and nervous tension (Wilson, 2007). In North America, species collected for medicinal purposes include *Cypripedium acaule*, *C. reginae*, *C. candidum* and *C. parvifolium* (Rao, A. (1997).

Similarly, use of orchids in America also has a long history. In Mexico, Vanilla has been used since ancient time to add aroma and flavor cocoa. In America, *Vanilla planifolia* was used as useful herb for the treatment of hysteria, fevers, impotence, and rheumatism and to increase the energy of muscular systems since 15th century.

Wild orchids in Nepal have been used extensively as traditional medicines to treat a wide range of ailments of the central nervous system, endocrine system, gastrointestinal tract, reproductive system, respiratory system and infectious disorders.(Abishkar Subedi and Bimal Kunwar, 2002)

The first comprehensive account of orchids of Myanmar was published by Captain Bartle Grant in 1895, in which he listed about 500 species in 78 genera (Grant),1895).

In Mt. Popa, local practitioners use the underground parts of various ground orchids such as *Eulophia*, *Habenaria* and *Geodorum* species but many people in Shan State believe that consuming the underground organs of *Geodorum* increase life expectancy. Moreover, in many parts of the country dried stem of *Dendrobium* species are also used for medicine such as, retard the growth of cancer, improve the immune system of the human body, enhance blood flow and strengthen the body's resistance.

And also, Kachin people are used the pseudobulb of *Cymbidium aloifolium*, to cure stomach ache, dysentery and earache for traditional medicine. Indigenous people believe that underground leaves and other parts of *Cymbidium aloifolium* plants wrapped around a fractured bone will facilitate healing. Woman in the Ayryarwady Delta and in Taninthayi Region are still using the pseudobulbs of some species of *Bulbophyllum* to make shampoo. They believe that natural shampoo can enhance the growth and colour of hair and also kill dandruff.(Hubert Kurzweil and Saw Lwin, 2014)

4. Materials & Methods

The intensive field survey works were carried out during the period October 2014-June 2015 covering all the seasons of the year in 4 locations of Mindut district of Matupe Township, including around the Tain Si village, Hte Sound village, 10 miles of Matupe - Palat Wa Road side, and forest areas, along the stream of Le - Myo river. Collected Orchid specimens were made into standard mounted herbarium sheets following the procedure. The authors have done photographs and sketch of available orchid species of the site with the region.

The relevant data from the field notebooks were then transferred to the labels of the herbarium sheets and recorded in the computer. Normally, each specimen per species in flowering or fruiting stage was collected and life form photographs were prepared. But since some specimens have not flower or fruit at the time of collection, we have to cultivate in FRI medicinal garden. The specimens were identified, described and nomenclature checked with the help of the relevant literatures and matched, and all the voucher specimens have been deposited at the herbarium of Botany Section, Forest Research Institute, Yezin. All the species were arranged systematically with botanical names, habitat, local distribution and flowering month.

4.1. Profile of the study area

4.1.1. Location

Matupe Township is lies between 28°53'24" – 31°27'50" N latitudes and 77°34'27" – 81°02'22" E longitudes, (Figure 1) making up an area of 894.52sq.miles.It is situated along the Min dut– Matupe– Hakha road . About 12800 acre of Matupe Township is including in the Nama Taung National Park. Elevation ranges from 1283 meter to over 2606 meter above sea level. The climate of Matupe Township, relatively cool and humid compared to the rest township with in Minduct District. Except for inner dry ranges, much of the township receives high precipitation during the months of May to November and cold season is during the months of November to February. At higher altitudes (>7900 feet asl.),it is a hot dry season with temperatures up to 30°C.

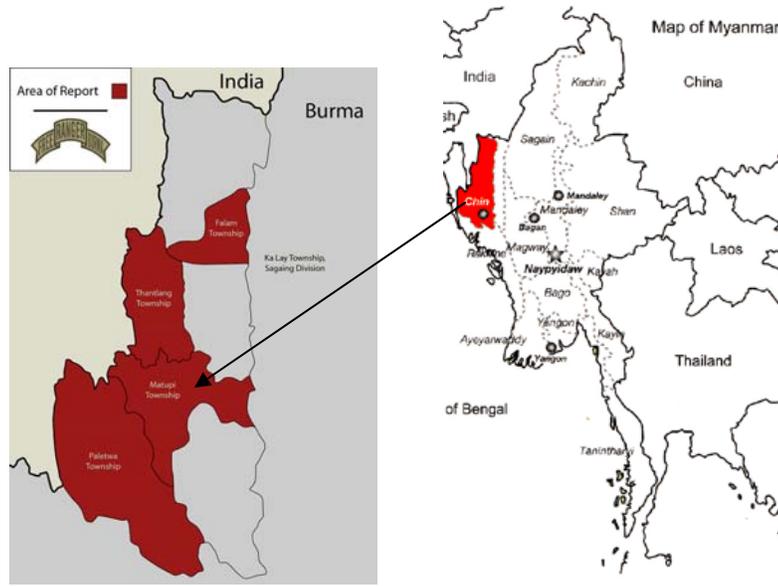


Figure1. Location of Map

4.1.2 Vegetation

The forest types mostly are found upper mix deciduous forests, Inding forest, dry forest and hill evergreen forest. The dominant forest species are growing about *Tectona grandis*, *Pterocarpus macrocarpus*, *Shorea obtusa*, *Shorea siamensis*, *Dipterocarpus tuberculatus*, *Terminalia tomentosa*, *Chukrasia tabularis*, *Gmelina arborea*, *Duabanga grandiflora*, *Vitex quilata*, *lagerstroemia speciosa*, *Lagerstroemia villosa*, *Acacia catechu*, *Mitragyna Diversifolia/rotundifolia*, *Adina cordifolia*. In the hill evergreen forest *Pinus* spp, *Rhododendron arboretum*, *Quercus*, *Quercus samisarrata* and *Chima wallichii* are found.

Moreover, most of the bamboo species such as *Dendrocalamus membranaceus*, *Dendrocalamus stritatus* and *Cephalostachyum pergracile* are growing everywhere but *Melocanna arundina* is a few. The total forest area of the township is approximately 56.89% of the total geo-graphical area.

5. Result & Discussion

5.1 Species analysis

During recent field studies in the Matupe Township, 17 genera with 53 Orchid species diversity and distribution have been recorded from the four locations. Of them, 4 species with 3

genera are terrestrial and the rest 38 species with 17 genera are epiphytic.(Figure 2.) The numbers of epiphytic are greater than terrestrial species. The total numbers of recorded species of each genus are 1 *Ascocentrum* pp., 6 *Bulbophyllum* spp., 5 *Coelogyne* spp., 3 *Cymbidium* spp., 18 *Dendrobium* spp., 4 *Eria* spp., 1 *Malaxis* spp., 3 *Oberonia* spp., 1 *Otochilus* spp., 1 *Pleione* spp., 2 *Pholidota* spp., 1 *Propaxs* spp., 1 *Rhynchostylis* spp., 1 *Sunipia* spp., 2 *Thunia* spp., 1 *Paphiopedilum* spp and 2 *Vanda* spp., are found wildy distributed in the region (Annex .1).



Figure 2. Growth form of orchid genera

Terrestrial Orchid species like *Malaxis biauarta* frequently found in marshy habitat. Epiphytic Orchid species like *Dendrobium*, *Eria* and *Bulbophyllum* found highest number of species diversity and wide distribution throughout the Matupe Township. Some attractive Orchid species in the regions which include *Ascocentrum ampullaceum*, , *Bulbophyllum odoratissum* *Cymbidium ensifolium*, *Cymbidium aloifolium* *Coelogyne stricta*, *Dendrobium aphyllum*, *D. laterale*, *D. pulchellum*, *vanda denisoniana*, *Rhynchostylis retusa* etc. Following Orchid species are rare and high risk of threat in the regions are *Bulbophyllum spathulatum*, *Paphiopedilum*

villosum,, *Cymbidium ensifolium*, *Dendrobium crystallinum*, *Dendrobium laterale*, *Dendrobium gregulus*, *Dendrobium dickasonii*, *Dendrobium incurvum* and *Pleione procax*.

5.2 Species Collection

Firstly, our collection team collected near the forest of Hte Sound village and along the road side of BonTala Water fall on October, 2014. Hte Sound village is situated 1332m above sea level of plain between the mountain and rocky mass on land. It is far from 3 miles of Bon-Tala Water fall.

The road is narrow and the other side is chasm in through out the waterfall. Some places are found not only with open forest but also with close forest. Normally grown undergrowth of the forest are fern species, *Begonia* species, *Plantago major*, *Zingiber* spp, others and also small and medium size tree species of *Taramix* spp: *Schima* spp; , *Michelia chempaca*, *Gmelina arborea*, *Taxus* spp; *Cinnamomum* spp; are growing. Totally about about 8 genera 17 orchid species collected such as ten *Dendrobium* species, each species of *Coelogyne*, *Cymbidium*, *Bulbophyllum*, *Oberonia*, *Eira*, *Thunia* and *Vanda* spp.(Figure. 3)

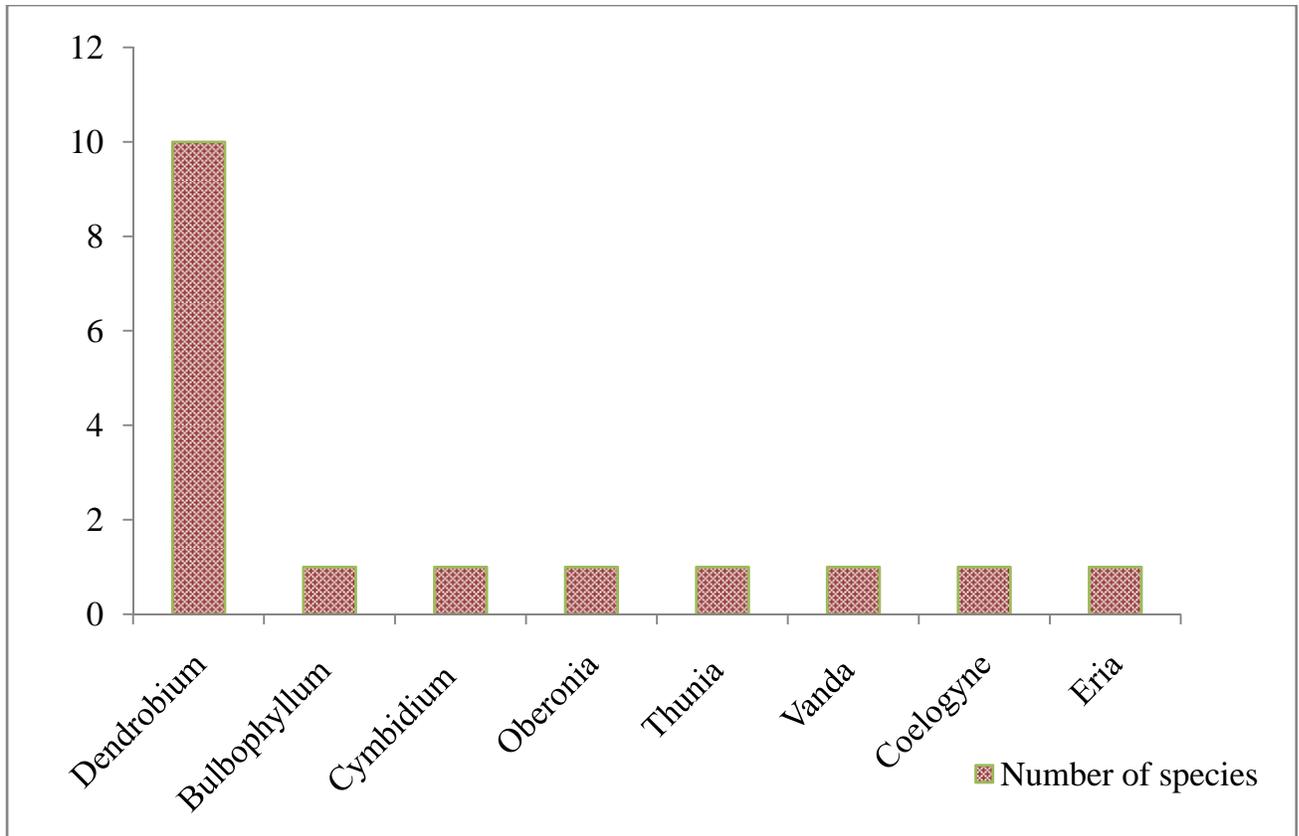


Figure 3. Species list of Hte Sound village

Secondly, on February, 2015, we collected at two locations such as from 5 miles to 10 miles of Matu pe - Palat Wa Road side & forest areas, and along the Lae Myo river side. The elevation of 5 miles to 10 miles of Matu pe - Pala Wa Road side & forest areas is between 768m to 1753m above sea level. The season is cool but some of the orchid species are dried. We found the road sides of 5 miles to 6miles has abyss and on the other hand dwarf of trees. From 7miles to 10 miles both side has evergreen forest and canopy is close. Most of the species are found *Rhododendron* species, *Listea* species, Moema Kha species and others. But the road construction is preparing at this area. About 19 orchid species were collected such as, eleven *Dendrobium* species, two species of *Coelogyne*, *Pholidota*, and each are *Oberonia*, *Eira* and *Bulbophyllum*, *Paphiodilum* in that area. (Figure 4)

Along the Lae Myo river side is 764m above sea level and it is across by the iron bridge. About 6 orchid species such as of *Otochilus*, *Bulbophyllum*, *Eira*, *Dendrobium* , *Rhynostylis*, and *Oberonia* were collected. Totally about 9 genera, 25 species collected from two locations.

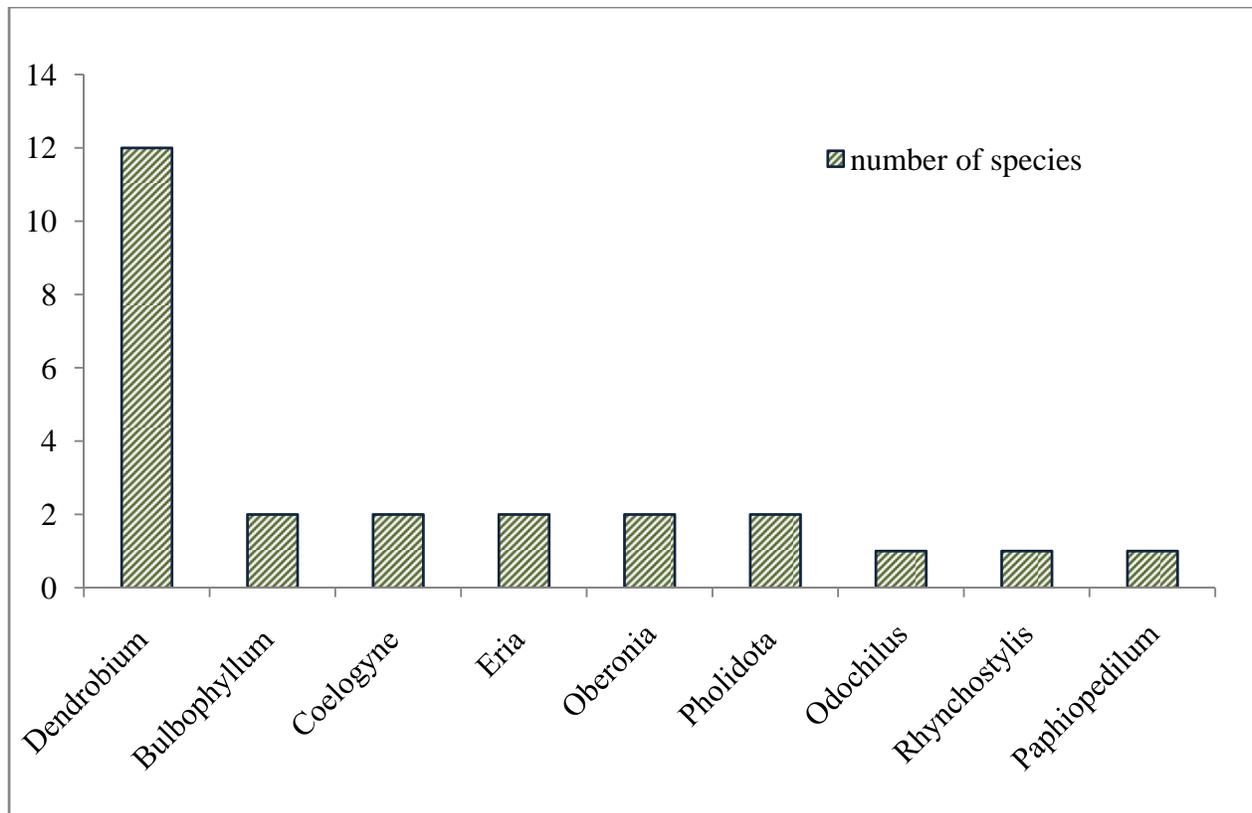


Figure 4. Species list of Matupe- PalatWa Road & Lae –Myo River

The last collection started on June, 2015. Taine Si village is situated at a mountain peak, of the Matupe- Haka road, 1771m above sea level. It is about 30miles away from Matupe and within the forest. We collected about 16 genera, 25 species at along the road side of Gant-Gaw – Maran Si and Matupe – Haka road within 13 mile of stretch. There are 4 species of *Dendrobium*, 3 species of *Bulbophyllum*, 2 species each of *Eira*, , *Coelogyne*, *Cymbidium*, *Pholidota*, *Thunia* and one species each of *Rhynostylis*, *Ascocentrum*, *Pleione*, *Oberonia* , *Malaxis*, *Sunipia*, *Otochilus*, *propax* and *Vanda* were collected. The beautiful orchid of *Renanthera* species are also found in the area of township. (Figure.5)

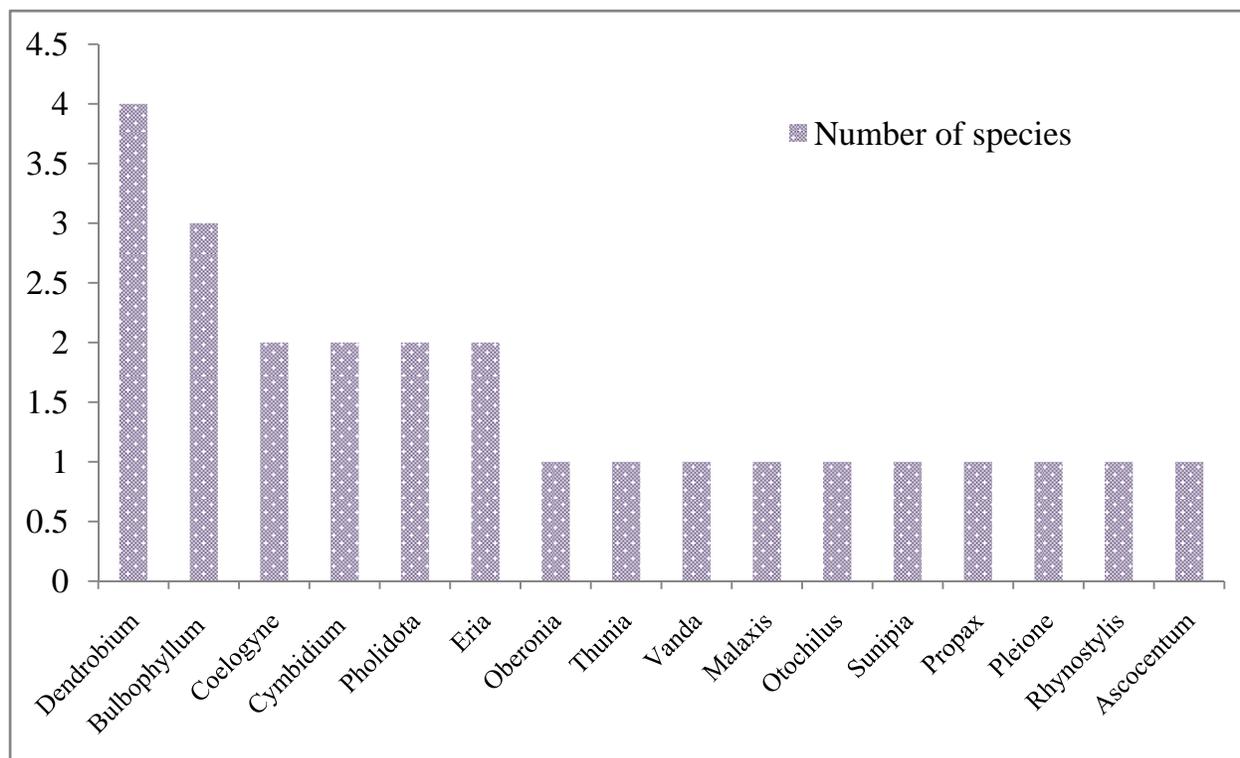


Figure 5. Species list of Taine Si VAllage

It is found that three (or) four orchid species are growing together on the tree trunk, which is very well ecosystem. At new road construction site, some trees are felled and have done logging along the road side. It we found that many of orchid species are still attach on the felled tree trunk. That is why orchid resources disappear gradually. Although it has very large amount of orchid species, now, *Dendrobium laterale* (Ni lone) is difficult to find this year trip. Because of, the villager said that bulb of (Ni lone) is very expensive and its great demand from aboard. The fresh bulb is 60,000 kyat/ viss and the dried bulb is 100,000 kyat/ viss. Moreover, *Dendrobium incurvum* and *Dendrobium gregulus* are also at high market value when author survey in the market.

5.3 Medicinal uses

Orchids are well known not only for their ornamental value, but also for their uses in herbal medicine. The author got the limited information from middlemen, local traders and district forest officials on medicinal values of orchids regarding their therapeutic properties. In

Taine Si village about 10 % of (women) reported to use that certain species of orchids are medicinal uses such as tubers of *Dendrobium gregulus* and *Dendrobium laterale* are used for shampoo and tooth past, pseudo- bulb of *Malaxis biaurita* is used in tonic preparation, and bulb of *Pholidota imbreata* is used for rheumatic swelling, the fibers of *Thunia alba* is used for crack of heel, paste of the bulb of *Coelogyne prolifera* is consumed against headaches, fever and paste applied externally over burnt skin.

In Hte Sound village, they do not use for medicine but there are market opportunity for the commercial sale of medicinal orchids. It is found that some other species such as *Renanthera*, *Dendrobium*, *Rhynchostylis.*, *Sunipia.*, *Thunia* , *Paphiopedilum* and *Vanda* ., have ornamental value.

5.4 Collection & Trade

Medicinal orchids were usually harvested during the period from December up to April. For floriculture, the collection period was found to be throughout the year depending on the availability of flowering individuals. Collection of wild orchids usually started once a purchase order was received from middlemen. These persons usually stayed nearby orchid collection sites throughout the collection period. Sometimes, the collectors received advance payments. The middlemen usually came from distant districts or even from abroad. They provided printed photographs of desired species or small samples of live orchids and asked collectors to collect similar-looking plants. Most collectors have to spend an average of 5-6 hour per day in the forest for collection of orchids.

6. Conclusion and Recommendations

The major threat to orchid flora in the Matupe Township is due to new road construction, deforestation, through burning and felling of forest trees, shifting cultivation practices employed by tribes. And also activities of tribal for the collection of forest produce are additional threats to the orchid flora. In case of epiphytic orchids, the losses of host tree species and bound to result in the elimination of such orchids. Certain orchid flowers have global market value and there are cases of smuggling them out into other countries. Local people should be trained for restoration of native species of orchids by both natural and artificial methods of cultivation.

The diversity of orchid within Matupe Township is so large that there are terrestrial, epiphytic and saprophytic orchids. The local people have done over collection of many medicinal orchid species from this region. Illegal collection and selling of wild orchids in domestic market are increasing due to consumer demand for orchids. Most of the orchid species are endangered in their native habitats. There is also urgently need to prevent deforestation, habitat destruction and indiscriminate collection by orchids lovers and exploitation by trade man. Extensive research is necessary to be able to find out native orchid species of that region for their medicinal uses. Due to their small population size and restricted distribution, intensive care and habitat management is highly recommended. Very little effort has been made to cultivate the medicinal orchids for commercial scale. The species which has reached the threatened category because of the human activities can survive only with human support.

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No	Scientific Name	Myanmar Name	Locality	Altitude	Remarks
1.	<i>Ascocentrum ampullaceum</i>	Nga-letma	Taine Si	1770m	Specimum,cu ltivated
2.	<i>Dendrobium incurvum</i>	Pa Zum	Matupi-palatwa – 6 miles Taine si	1432 m 1770m	Specimum
3.	<i>Dendrobium infundibulum</i>	Taung Ngew Tu	Matupi-palatwa – 7miles, Hte Sound	1550m 1201m	Specimum Cultivated
4.	<i>Dendrobium densiflora</i>	Ta -khun -lone - shwe	Matupi-palatwa – 7miles Hte Sound	1550m 1300m	Cultivated
5.	<i>Dendrobium parishii</i>	Khayang- young - lwin -pyin	Matupi-palatwa – 6 miles, Hte Sound	1432 m 1332m	specium Cultivated
6.	<i>Dendrobium longicornu</i>	Kein- na- ya	Matupi-palatwa – 8miles, Hte Sound	1740 m 1204m	Specimum Cultivated
7.	<i>Dendrobium dixanthum</i>	Shwe- war- ga- lay	Matupi-palatwa – 6 miles, Hte Sound	1432m 1103m	Cultivated
8.	<i>Dendrobium findlayanum</i>	Cho- chin thitkhwa	Taine si, Hte Sound	1544m 1200m	Specimum Cultivated
9.	<i>Dendrobium formsum</i>	Ngwe- tu	Matupi-palatwa – 6.5miles	1459 m	Specimum
10.	<i>Dendrobium laterale</i>	Ni lone	Matupi-palatwa – 9 miles	1750m	Cultivated
11.	<i>Dendrobium crystallinum</i>	Setkhu- pan	Matupi-palatwa – 8 miles	1740 m	Cultivated
12.	<i>Dendrobium crepidatum</i>	Ganaing na- bay- pauk	Matupi-palatwa – 5 miles, Hte Sound	788 m 1320m	Cultivated
13.	<i>Dendrobium chrysotoxum</i>	Maunt- hkan -war	palatwa -5.5 miles , Hte Sound	793 m 1015m	Specimum, cultivated
14.	<i>Dendrobium aphyllum</i>	Let- tan shay	Hte Sound	900m	Specimum, cultivated

No	Scientific Name	Myanmar Name	Locality	Altitude	Remarks
15.	<i>Dendrobium heterocarpum</i>	Pan- mwe thitkhwa	Taine Si	1765m	Cultivated
16.	<i>Dendrobium pulchellum</i>	Sin -ma myet - kwine	Hte Sound	1045m	Specimum, cultivated
17.	<i>Dendrobium gregulus</i>	Pa le	Taine Si	1765m	Cultivated
18.	<i>Dendrobium dickasonii</i>	Tha Min Ni	Taine Si	1765m	Cultivated
19.	<i>Dendrobium ochreatum</i>	Taung -naba -pauk	Hte Sound	1200m	Cultivated
20.	<i>Bulbophyllum taeniophyllum</i>	Tha zin Yat Taung (MyomGwe)	Taine Si	1765m	Specium Cultivated
21.	<i>Bulbophyllum careyanum</i>	-	Le Myo River Bank	910m	Cultivated
22.	<i>Bulbophyllum</i> spp(green)	-	Matupe- palawa 9mile	1750m	Cultivated
23.	<i>Bulbophyllum</i> spp(pink)	-	Taine Si	1765m	Specium Cultivated
24.	<i>Bulbophyllum auricomum</i>	Thazin-pan	Hte Sound	1300m	Cultivated
25.	<i>Bulbophyllum odoratissum</i>	Yattaung-pan	Taine Si	1770m	Specimum
26.	<i>Coelogyne nitida</i>	Ngwe-hnin-phyu	Taine Si	1765m	Specimum Cultivated
27.	<i>Coelogyne</i> spp	Ngwe-hnin-phyu-myokhwe	Hte Sound	1163m	Cultivated
28.	<i>Coelogyne prolifera</i>	Ngwe-hnin-phyu-myokhwe	Taine Si	1765m	Specimum Cultivated
29.	<i>Coelogyne stricta</i>	Ngwe-hnin-phyu-myokhwe	Matupe- palawa 8mile	1740m	Cultivated
30.	<i>Coelogyne cristata</i>	Ngwe-hnin-phyu-myokhwe	Matupe- palawa 8mile	1740m	specimum
31.	<i>Cymbidium aloifolium</i>	Thit-tet-lin-nay	Taine Si	1770 m	Cultivated
32.	<i>Cymbidium ensifolium</i>	Pan-thet-shay	Taine Si	1770 m	Cultivated
33.	<i>Cymbidium</i> spp	-	Hte Sound	1200m	Cultivated
34.	<i>Eria pannea</i>	Nat-tha-mee-pan-myokhwe	Laemyo river	846m	Cultivated
35.	<i>Eria amica</i>	Nat-tha-mee-pan-myokhwe	Laemyo river	843 m	specimum
36.	<i>Eria clavicaulis</i>	Nat-tha-mee-pan-myokhwe	Matupe- palawa 8mile	1740m	Cultivated
37.	<i>Eria</i> spp	Nat-tha-mee-pan-myokhwe	Matupe- palawa 8mile	1740m	Cultivated

No	Scientific Name	Myanmar Name	Locality	Altitude	Remarks
38.	<i>Malaxis biaurita</i>	Myay- thit-khwe- myo-khwe	Taine Si	1770 m	Cultivated
39.	<i>Oberonia pyrulifera</i>	Batee sint pan - myo kywe	Matupi-palatwa -9 miles	1750 m	Cultivated
40.	<i>Oberonia acaulis</i>	Batee sint pan - myo kywe	Matupi-palatwa -9 miles, Hte sound	1750m 989 m	Cultivated
41.	<i>Oberonia spp</i>	Batee sint pan - myo kywe	Matupi-palatwa -9 miles, Hte sound	1753 m 1300m	Cultivated
42.	<i>Otochilus fuscus</i>	Batee sint pan	Taine Si Le myo river	1732 m 764m	Specimen
43.	<i>Pholidota imbricata</i>	Kwyet mee pan	Taine Si	1732 m	Specimen, cultivated
44.	<i>Pholidota articulata</i>	Kwyet mee pan - myo kywe	Taine Si	1752 m	Specimen, cultivated
45.	<i>Propax ustulata</i>	-	Taine si	200 m	Specimen Cultivated
46.	<i>Pleione praecox</i>	Phar la tet thitkhwa	Taine si	200 m	Specimen Cultivated
47.	<i>Paphiopedilum villosum</i>	Kywe cho thit khwa	Matupi-palatwa – 6 miles	1432 m	Cultivated
48.	<i>Rhynchostylis retusa</i>	Kyaung mee nantha	Lae myo river	843 m	Specimen, cultivated
49.	<i>Sunipia scariosa</i>	-	Taine si	200 m	Specimen cultivated
50.	<i>Thunia alba</i>	Kyauk thitkhwa	Taine si, Hte sound	1547 m 1160m	Specimen, cultivated
51.	<i>Thunia spp</i>	Kyauk thitkhwa	Taine si,	1547 m	Specimen, cultivated
52.	<i>Vanda spp</i>	-	Taine si	1555 m	cultivated
53.	<i>Vanda denisoniana</i>	Thayet hte	Taine si, Hte Sound	1544m 1320m	cultivated

List of Medicinal Orchids

No.	Scientific Name	Part used	Uses
1.	<i>Bulbophyllum odoratissum</i>	Entire plant	Powder used in treating tuberculosis, chronic inflammation and fractures.
2.	<i>Dendrobium densiflorum</i>	Leaves	Increases the production of body fluids.
3.	<i>Dendrobium parishii</i>	Stem	Tonic
4.	<i>Dendrobium longicornu</i>	Roots,pesudobulb	Juice of stems is consumed against fever. Boiled root fed to livestock suffering from coughs.
5.	<i>Dendrobium dixanthum</i>	Stem	Tonic
6.	<i>Dendrobium findlayanum</i>	Stem	Tonic, arthritis
7.	<i>Dendrobium crystallinum</i>	Stem	Liver Tonic
8.	<i>Dendrobium chrysotoxum</i>	Stem	Tonic
9.	<i>Dendrobium aphyllum</i>	Stem	Tonic
10.	<i>Dendrobium crepidatum</i>	Pesudobulb	Paste is used in fracture and dislocated bone .
11.	<i>Dendrobium formosum</i>	Stem	Tonic
12.	<i>Dendrobium heterocarpum</i>	Pesudobulb	Paste mixed with wheat flour and applied on fractured or dislocated bones.
13.	<i>Dendrobium pulchellum</i>	Stem	Tonic
14.	<i>Dendrobium ochreatum</i>	Stem	Tonic
15.	<i>Dendrobium incurvum</i>	Pesudobulb	Shampoo, tooth past
16.	<i>Dendrobium gregulus</i>	Pesudobulb	Shampoo, tooth past
17.	<i>Dendrobium laterale</i>	Pesudobulb	Shampoo, tooth past
18.	<i>Coelogyne nitida</i>	Pseudobulb	Paste consumed against headaches and fever. Paste applied externally on burns.
19.	<i>Coelogyne fimbriata</i>	Pseudobulb	Powder used in tonic preparation
20.	<i>Coelogyne prolifera</i>	Pseudobulb	Paste consumed against headaches and fever. Paste applied externally over burns skin.
21.	<i>Coelogyne stricta</i>	Pseudobulb	Paste to relieve headache and fever
22.	<i>Coelogyne cristata</i>	Pseudobulb	Pseudobulbs are given in constipation as also as an aphrodisiac.Juice of pseudobulbs is applied in wound and boils.Gum from pseudobulb are used for sores.

No.	Scientific Name	Part used	Uses
23.	<i>Cymbidium aloifolium</i>	Entire plant	Dried powder used as tonic against diarrhea. Fresh paste applied externally over fractured or dislocated bones.
24.	<i>Cymbidium ensifolium</i>	Rhizome, flower	Gonorrhea, eye sores
25.	<i>Eria pannea</i>	Entire plant	Bone ache, ague
26.	<i>Malaxis baurita</i>	Pseudobulb	Tonic
27.	<i>Pholidota imbricata</i>	Pseudobulb	Paste consumed to relieve fever and powder as tonic
28.	<i>Pholidota articulata</i>	Entire plant	Paste applied on fractured bones and consumed as tonic
29.	<i>Pleione praecox</i>	Pseudobulb	Dried powder consumed with milk as tonic and energizer. Paste externally applied on cuts and wounds
30.	<i>Rhynostylis retusa</i>	Entire plant	Juice of roots applied to cuts and wounds. Leaf powder used to cure rheumatic diseases. Dried flowers as insect repellent and to induce vomiting.
31.	<i>Thunia alba</i>	Entire plant Fiber	Plant paste is applied to treat dislocated bones. Is used for crack of heel.
32.	<i>Vanda cristata</i>	Leaves	Tonic, expectorant