

THE STUDY ON WILD ORCHIDS AT YEE-AYE RESERVED FOREST OF KALAW TOWNSHIP IN SOUTHERN SHAN STATE (PART - 3)

Moe Sandar Shein¹

Abstract

The present work was concerned with the study on wild orchids of natural habitat in Yee Aye Reserved Forest in Kalaw Township. The Yee Aye Reserved Forest is situated in Kalaw Township of Taunggyi District and also the southern west part and 5.5 miles distance from Kalaw city. In this recent study 4 genera and 10 species were recorded from study area. The Yee Aye Hill wetland located the centre of Yee Aye Reserved Forest. Most of the wild orchids were collected around the area of this Hill wetland. Epiphytic genera namely *Dendrobium*, *Eria*, *Flickingeria* and *Sunipia*, were recorded the habits of orchids in nature. The collected specimens were classified, identified and described with color photographs of their natural habitats and inflorescence. The morphological characters have been emphasized and artificial keys from the tribe to the species have been constructed and GPS location system.

Keywords Wild Orchids, Yee Aye Reserved Forest, Hill wetland, Epiphyte, artificial keys.

Introduction

The family Orchidaceae are largest family among Angiospermae, Manocotyledonae. Some botanist estimated about 35000 orchids among flowering plants. Orchidaceae grow well throughout the world (Seidenfaden, 1992). Myanmar is situated in Southeast Asia and is also part of Indo-Burma biodiversity hotspot, with high species richness and diversity. Botanical explorations have sharply decreased in Myanmar since 1950, leading to large gap of knowledge on flora of Myanmar (Kress et al. 2003). Now The study area is Kalaw Township in Taunggyi district of Southern Shan State. Kalaw Township is located on the east by Shwe Nyaung Township, on the west by Thazi Township, on the south by Pin Laung Township, on the north by Pindaya Township, and it lies between North latitude 20°25'-21°0' and East latitude 96°20'-97°10'. The invest gold area is Yee Aye reserved forest in the recent study. Which forest is Hill evergreen forest type Hill evergreen forest where the wild Orchids have grown on the various plants which are (Thit-ya) *Shoreaob longifolia* Klall., (Thit-el) *Castanea sativa* Mliler (Pyirn ma) *Lagerstromia speciera* Pers (Pyin-Ka-doe). *Pyliadolabri formis* Benth and (In-pin) *Dipterocarpus obtusifolius* Teysm. ex. Miq. Yee Aye reserved forest situated in Northern East of Pin Laung Township and North by Shwe Nyaung Township and Southern West part between Kalaw and Tharzi Township 5.5 miles far from Kalaw city. The area of these forest is about 1952 acres and altitude of 1465 meters and lies between North latitude 20°36' and East longitude 96°31'. Genus *Dendrobium*, *Eria*, *Flickingeria* and *Sunipia* have been found in this area.

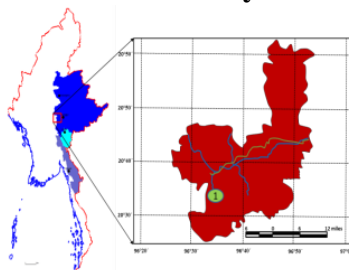
In this study, (1) Subfamilies belong to (1) Tribes (3) Subtribes (4) genera and (10) species have been collected from this study area including epiphyte and lithophytes. The aim of the study was to know of Myanmar wild orchids and to access the presence distribution of wild orchids in Yee Aye reserved forest. To fulfill this aims to classified and descried the collected wild orchids systematically.

¹ Department of Botany, Maubin University

Methodology

The specimens were collected from Kalaw Township of Taunggyi District. All these specimens were colorful photographed to record their actual habitat and the nature of inflorescence in 2021-2022. All these collected specimens were classified according to Dresseler's classification (Dressler (1927) and identified by Seidenfaden (1992) Grant: (1966), Nantiya Vaddhanaputi (2006), Hooker, J.D. (1954), Seidenfaden and Smitch (1965), Dassanayake, N.D. (1981), Flora of China Vol. 25 (2013) and Flora of Thailand Vol. XI & XII. Part I&II (2014) methods.

Location of Study Area



Result

This classification of Sbufamily in the study is in accordance with Dressler (1927) and the key below is cited from Seidenfaden and Wood (1992) described in "The orchids of Indochina." In this paper (1) subfamily, (1) tribes, (1) subtribes (4) genera and (10) species have been collected from study area.

Arrangement of the Subfamily;Tribe;Subfamily;Genus and Species

Class :Liliopsida
(Monocotyledoneae)
Subclass :Orchidales
Family :Orchidaceae
Subfamily : Epidendroideae
Tribe : Epidendreae
Subtribe : Errinnae
Genus : (1) *Eria*
Subtribe : Dendrobiniinae
Genus : (2) *Dendrobium*
: (3) *Flickigeria*
Subtribe : Sunipiinae
: (4) *Sunipiea*

Subfamily Epidendroideae

In this recent study four genus *Eria*, *Dendrobium*, *Flickigeria* and *Sunipiea* under the Subtribe of Tribe Epidendreae in subfamily Epidendroidea.

Key to the Subtribe of Tribe Epidendreae

1. Pollinia 8 with distinct viscidium-----*Eriinae*
1. Pollinia 2-4 without viscidium-----2.
2. Pseudobulb several internode. Inflorescence upper axillary or terminal .-----*Dendrobiniinae*

2. Pseudobulb without internode. Inflorescence arising base of the internode-----
-----*Sunipinae*

Key to the Genus of Subtribe Dendrobinae

1. Pseudobulb slender with many internode unbranched. Leaves not solitary. Inflorescence arising on the node with many flowers.-----*Dendrobium*
1. Pseudobulb swollen, branched. Leaves arising from the top of the pseudobulb with one leaf. Inflorescence with one or two flowers on adaxile.-----
-----*Flickingeria*

Key to the Species of Genus *Dendrobium*

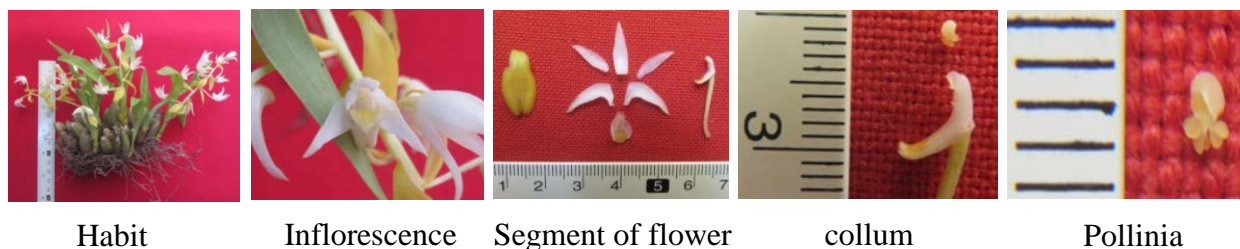
1. Pseudobulb dwarf-----2
1. Pseudobulb long-----3
2. Pseudobulb fusiform, brownish black. Flower reddish orange. Lip triangular with distinct veins-----*(1) D. seidenfaden*
2. Pseudobulb ovoid and 4 angles. Flower various colors-----4
3. Pseudobulb cylindric and stout-----6
3. Pseudobulb various shape-----7.
4. Pseudobulb 4 angle with furrow, dwarf crowded. Inflorescence arising on the node, peduncle short. Flower golden yellow, delicate-----*(2) D. junkaisai*
4. Pseudobulb ovoid, smooth. Inflorescence erect, arising from the base of the pseudobulb. Flower greenish yellow with recurved lip-----*(3) D. gregulus*
5. Pseudobulb erect, club shaped, stout. Inflorescence suberect with many showy flowers. Flower golden yellow, fragrant. Lip orbicular, excurved, densely pubescent on adaxilly, yellow with reddish brown patch each side of mesochile-----
-----*(4) D. suavisimum*
5. Pseudobulb suberect, cylindric with many swollen nodes. Inflorescence with 2-3 flowers. Flower white with purplish tipped. Lip white with golden yellow at the base in middle and purplish red tipped-----*(5) D. pendulum*
6. Flowers large, white with distinct vein. Lip quadangular, white with small yellow patch on the mesochile-----*(6) D. formosum*
6. Flower medium, creamy white with purple tipped. Lip orbicular, orange with purplish red on tipped.-----*(7) D. crystallinum*

I. Subfamily Epidendoideae

Subfamily	Tribe	Subtribe	Genus	Species	Myanmar name
Epidendroideae	Epidendreae	Eriinae	<i>Eria</i>	<i>acervata</i>	နတ်သမီးပန်း
		Dendrobiinae	<i>Dendrobium</i>	<i>seidenfadenii</i>	သင်္ကန်းသစ်ခွ
				<i>jenkensii</i>	သင်းခွေချပ်
				<i>gregulus</i>	None
				<i>suavissimum</i>	အာမဲမောက်ခမ်းဝါ
				<i>findlayanum</i>	ချိုချည်သစ်ခွ
				<i>formosum</i>	ငွေတူကြီး
				<i>crystallinum</i>	စက္ကူပန်း
			<i>Flickingeria</i>	<i>sp</i>	None
		Sunipiinae	<i>Sunipia</i>	<i>racemosa</i>	သဇင်အချိတ်

In this recent study only one genus *Eria* was collected under Subtribe Eriinae.

1. *Eria acervata* Lind.1



Habit

Inflorescence

Segment of flower

collum

Pollinia

Eria acervata Lind.1

Epiphyte, evergreen, tuff. Pseudobulb 2-4.00 cm long and 1.5 cm wide with node, erect crowded. Leaves oblong acute about 8.00 cm long and 1.5 cm wide. Inflorescence erect, arising from the new leafy shoot at the base of the pseudobulb, about 6.9.00 cm long and 2.00 m wide. Flowers white, fragrant with district bract, pedicel pale green 1.7 cm long and 1.00 cm wide not opened widely about 1.00 cm across. Dorsal sepal oblong acute, 1.5 00 cm long and 0.4.00 cm wide, lateral sepals oblong acute, 1.20 cm long and 0.5 cm wide. Petals oblong acute, about 1.2.00 cm long and 0.3 cm wide. Labellum tri-lobes, side lobes narrowly embracing the column 0.7 cm long and 2.00 mm wide with 2 distinct yellow keels on each side, mid lobe ovate acute incurved, pale yellow, about 4.00 cm long and wide. Coloum short, 7.00 mm long and 2.00 mm wide, white. Operculum cap shaped, white. Pollinia 8, rounded, pale yellow with not stipe.

Myanmar Name- Nat Thamee Pan.

Occurrence -Kalaw, Yee Aye reserved forest, N 20° 36' 44" E 96° 32' 1.5"

Distribution - Nepal eastwards to Tibet and China (Seidenfaden, 1982) .and Flora of Thailand, 2014.

Ecology - Epiphyte, on the trunk, Alt-1442 m, Hill evergreen forest.

Flowering Period-April –May

In this recent study (7) species of genus *Dendrobium* were recorded.

2.1. *Dendrobium Seidenfadenii* Seng & Backer



Habit



labellum



Anther cap & pollina



pollina



fruit

Dendrobium Seidenfadenii Seng & Backer

Epiphyte, dwarf. Pseudobulbs clavate, erect, brownish black with white sheath, about 6.00-8.00 cm long and 0.8-1.00 cm wide leaves oblong acute, brown, about 5.00 cm long and 0.8 cm wide. Inflorescence with one two or flowers, suberect. Flower orange with reddish brown stripe non-resupinnate, about 4.00 cm across, pedicle orange about 1.7 cm long - 2.00 mm wide, bract ovate acute, pale brown 4.00 mm long 3.00 mm wide. Dorsal sepal oblong acute orange with reddish-brown stripe about 2.8 cm long and 4.00 mm wide, lateral sepals oblong acute, about 2.7 cm long and 4.00 mm wide. Petals oblong acute, smaller than the sepals about 2.8 cm long 3.00 mm wide. Labellum tripallate, convolute at the base, orange with reddish purple veins on the upper surface, 3 distinct keels, two lateral keels long and middle one short on the hypochile. Column short, 5.00 mm long and 2.00 mm wide. Operculum yellow, globose. Pollinia 4, oblong, yellow about 1.5 mm long 1.00 mm wide.

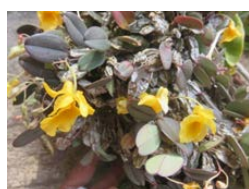
Myanmar Name -Thinguan Thit Khwa

Occurrence - Kalaw, Yee Aye reserved forest, N 20° 36' 15.2" E 96° 32' 6.5"

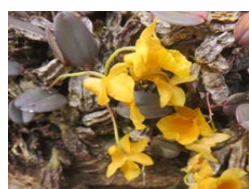
Distribution - Myanmar, Thailand, (Seidenfaden, 1992) and Flora of Thailand ,2014.

Ecology - Epiphyte, on the trunk, Alt-1212 m, Hill evergreen forest. Flowering Period- March – April

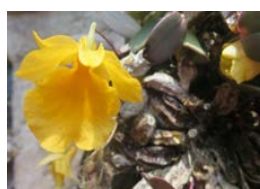
2.2. *Dendrobium Jenkensii* (Wallich ex Lindley) Brieger



Habit



Inflorescence



Flower



Dendrobium Jenkensii (Wallich ex Lindley) Brieger

Callista aggregata Kuntze var.

Dendrobium aggregatum Raxburg var. *Jenkensii* (Wallich x lingley)

D.marseillei Gagnepain

Epiphyte, dwarf, evergreen. Pseudobulb oblong, tetragonal, compressed, clustered with 1 leaved, 4 angled, two or three nodes. Leaf solitary, oblong, retuse, about 2-3 in, in height. Inflorescence lateral with 2 or 3 flowers, arising from the top of the pseudobulb, short peduncle, floral bract oblong acute. Flower 2-3 golden yellow flowers with slender pedicel, pedicel and ovary 3.5-5.00 cm. Dorsal sepal oblong elliptic, obtuse with 5 veins, about 10-15 mm x 6 mm wide, lateral sepals narrowly ovate elliptic with 5 veins, apex obtuse, mentum 4.00mm wide.

Petals orbicular with 5-veined about 15.00mm long and 10.00 mm wide. Lip reniform retuse, spreading and large, slightly pubescent on the wide lip in adaxial, entire, rose. Column short and stout, 6.00mm, pale green. Pollinia 4 in mass.

Myanmar Name - Yadana Shwe Ket Lay

Occurrence - Kalaw, Yee Aye reserved forest, Se Si, Hopone Township N 20° 35' 12" E 96° 31' 8.13" Distribution - Myanmar Grant, B (1966). S-Yunnan, Bhutan, NE India, N Laos, Myanmar, N Thailand, N Vietnam. (flora of Chin, Val. 25. (2014). NE India, Burma, Thailand and China, Seidenfaden (1992).

Ecology - Epiphyte, on the trunk, Alt-1212 m, Hill evergreen forest. Flowering Period- March – April

2.3. *Dendrobium gregulous* Seidenfaden 1985



Dendrobium gregulous Seidenfaden 1985

Aporum heterocaulan (Guillaumin) Rauschert `1983

D.heterocaulan (Guillaumin) 1965

Epiphyte, dwarf plant. Pseudobulbs crowded, cluster, rounded acute covered by scale like sheath, about 1.00 cm across, golden yellow leaves. Inflorescence erect, 4-6 flowers arising from the top of the leafless pseudobulb, peduncle yellow, 3.5 cm long, floral bract ovate acute, 2.00 mm, membranous. Flower non resupinate, pale greenish yellow with red purple veined lip, pedicel and ovary, 7.00mm long and 2.00mm wide, slender, bract obovate. Dorsal sepal oblanceolate, pale green with 4 veined, mentum projection forward, acute 1.5mm long and 1.2mm wide, lateral sepals obliquely ovate triangular, acute, sulphur yellow, apex acute incurved, mentum projection, acute, about 6.00.00mm long and 4.00mm wide. Lateral petals oblanceolate, smaller than the sepals, 7.00mm long and 2.00mm wide, sulphur yellow. Lip trilobed, broadly ovate acute on outline, side lobes erect, large, rounded, sulphur yellow with distinctly red purple veined, margin with, undulate, green callus on the mesochile, apex acute. Column pale yellow with red atripe o margom. Anther cap yellow. **(Note- Threatened Species, [http:// tropicos.org](http://tropicos.org))**

Myanmar Name - Nil

Occurrence - Myanmar, Yee Aye Reserved forest, Kalaw , N 20° 36' 12" E 96 °32'12.5"

Distribution - Southern Thailand ([www. Orchidspecies.com](http://www.Orchidspecies.com))

Ecology - Epiphyte, on the trunk, Alt-1242 m, Hill evergreen forest.
Flowering Period- March – April

Flowering period, September-October

2.4. *Dendrobium chrysotoxum* Lindl. in Bot.Reg.1847. var.*suavissimum* Rchb.f.

Flower



Inflorescence



Flower



collum

Pollinia &
Anther cap

pollinia

Dendrobium chrysotoxum* Lindl. in Bot.Reg.1847. *suavissimum* Rchb.f.**D. clavatum*, Roxb.Fl.ind.iii, 471**

Epiphyte. Pseudobulb, erect, club shaped, stout, furrow, about 16.00 cm and 2.5 cm wide, golden yellow in mature. Leaves oblong acute, 3-5 leaves in subterminal, 14.00 cm long and 3.5 cm wide, leathery, contracted in base. Inflorescence slightly pendulous, arising from upper portion of the stem with many flowers, peduncle green and stout with sheath, 14.00 cm long and 0.5 cm wide floral bracts ovate acute, membranous. Flower golden yellow with reddish brown spot on each side at the base with fimbriate labellum, very fragrant about 3.5 cm across with pale yellow pedicel about 4.00 cm long and 0.2 cm wide and small bract. Dorsal sepal oblong obtuse, yellow, veined about 20 mm long, 8 mm wide, lateral sepals oblong obtuse, 23.00 mm long and 9.00 mm wide, yellow, veined, mentum subglobose. Petals ovate, yellow, about 22.00 mm long, 15.00 mm wide, margin slightly dentate, veined. Labellum orbicular, curved at the tip, about 20.00 mm long, 25.00 mm wide, densely pubescent on adaxilly, margin undulate, yellow with reddish brown patch on mesochile, convolute at the base. Columns short, 5.00 mm long, 2.00 mm wide, yellow, with reddish brown stripe. Operculum yellow two pointed and protruding about 2.00 mm across glabrous. Pollinia 4, oblong, yellow, 2 in part, stripe absent.

Myanmar Name- Shwe Tu Mouk Kham Mae

Occurrence - Kalaw, Yee Aye reserved forest, N 20° 36' 12" E 96 °32'12.5"

Distribution - NE India, Myanmar, Thailand and China (Seidengaden, 1982) and Flora of Thailand, 2014. NE India, Laos, Myanmar, Thailand and Vietnam, (Flora of China.Vol.25, 2013).

Ecology - Epiphyte, on the trunk, Alt-1312 m, Hill evergreen forest.
Flowering Period- April –May

2.5. *Dendrobium findlayanum* Par.&Rchb.f.

Habit



Inflorescence



Flower

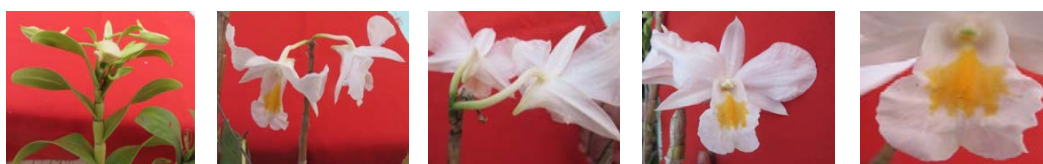
***Dendrobium findlayanum* Par.& Rchb.f.**

Epiphyte. Stem long, club-shaped, large upward and tapering, about 20-30.00 cm long and 1.5-2.00 cm wide. Leaves oblong lanceolate, acute both surfaces glabrous. Inflorescence raceme, lateral upper portion of the pseudobulb 2-3 flowers per node. Flower lavender, resupinate, slightly fragrant, about 5.00 cm across. Dorsal sepals linear lanceolate acute, lavender, fleshy, with faintly purple tip about 2.5 cm long and 8.00 mm wide, two lateral sepals

larvenda, linear lanceolate acute, forming a mentum, mentum lavenda obutuse. Petals 3, two lateral petals oblong ovate about 2.5cm long and 1.5 cm wide, slightly undulate, lavender with faintly purple tip. Lip broadly rounded convolute at the base and slightly acute at the tip, lavender with deeply yellow in centre and purple at pointed end, finely pubescent on the upper surface. Colum short with stipe. Anther white, terminal, 2 celled .Pollinia 4 in pairs.

- Myanmar Name - Cho Chin Thitkwa
 Occurrence - Kalaw, Yee Aye reserved forest, N 20° 38' 32" E 96° 33' Distribution
 - Native on the mountain between Burma and Thailand
 (R.E.Holtum 1964), Burma (Grant B, 1966), Myanmar, Thailand,
 (Seidenfaden, 1992).
 Ecology - Epiphyte, on the trunk, Alt-1224 m, Hill evergreen forest.
 Flowering Period- February-April

2.6. *Dendrobium formosum*, Roxb in Wall. Cat 1998. Var. *berkleyi*



Habit

Inflorescence

Flower

Labellum

6. *Dendrobium formosum*, Roxb in Wall. Cat 1998. Var. *berkleyi*

D. infundibulum. Ruhb.y

Epiphyte, ever green species. Stem pendulous, stoutish terete covered by sheath pubescent about 30-35.00 cm long and 0.8 cm wide. Leaves ovate, emerginate obliquely, thin, coriaceous about 30- 40.00 cm long and 25-30.00 cm wide amplexicaul. Inflorescence 3.5 flowers on upper portion of the old deciduous stem, peduncle short with basal sheath. Flower fragrant, 3.00 in across, large, spreading, white with yellow patch lip, pedicel and ovary 4.00 cm x 0.2 cm, bract ovate. Dorsal sepal oblong lanceolate, acuminate, white with veined about (2.5 x 0.5cm) laterals sepals uniquely with dorsal sepal. Petals suborbicular, undulate, cuspidate, larger than the sepals, white with veined, mentum conical. Lip trilobed, broadly obovate, entire, mid lobe dilated, retuse, apiculate with 2 tubercled ridges and disk golden, about (2.5 x 2.00cm). Column stout, pale green about 5.00 mm long and 3.00 m wide. Anther cap conic.

- Myanmar Name - Ngwe Tu Gyi
 Occurrence - Kalaw, Yee Aye reserved forest, N 20° 38' 32" E 96° 33'
 Distribution - Tropical Himalaya, Nepal, Bhutan, Myanmar, Andaman
 Island (Grant B, 1966), NE India Myanmar, Thailand,
 Yunman (Seidenyaden, 1992).
 Ecology - Epiphyte, on the trunk, Alt-1224 m, Hill evergreen forest.
 Flowering Period - April –May

2.7. *Dendrobium crystallinum* Rchb.f.



Inflorescence

Segment of Flower

collum

Anther Cap & pollinia

7. *Dendrobium crystallinum* Rchb.f.

Epiphyte. Stem erect and stout, cylindric about 50-70.00 cm long and 8.00 cm wide, unbranch, greenish yellow in mature. Leaves oblong lanceolate acute, leathery, about 10-16.00 cm long and 1.5-1.8 cm wide, dorsiventrally veins. Inflorescences 2-3 flowers on upper portion of the old stems, peduncle short with basal sheaths, floral bracts pale white, membranous, ovate acute. Flower showy with yellowish orange lip with purple margin, 4.00 cm across, pedicle and ovary 3.5 cm long 2.00 mm wide, bract ovate acute, 1.2 cm long and 5.00 mm wide. Dorsal sepal oblong lanceolate, 3.00 cm long 1.00 cm wide, veined, lateral sepals oblong lanceolate 3.00 cm long and 8.0 mm wide base obliquely, mentum conical. Petals oblong acute, veined, slightly undulate, 2.5 cm long and 1.5 cm wide, creamy white with purple tint. Lip suborbicular, pubescent in both surfaces, 3.00 cm long 2.7 cm wide, creamy white with yellow in center and purple tint, veined. Colum 8.00 mm long and 5.00 cm wide, short, pale purple stripe. Operculum long, white with hairs, 5.00 cm long and 3.00 m wide protuding. Pollinia oblong curved, yellow, hard, 2.00 mm long and 1.0 mm wide.

Myanmar Name- *Setku Pan Thidkwa*

- Occurrence - Kalaw, Yee Aye reserved forest, N 20° 36' 2.12" E 96 31'
- Distribution - Myanmar, Thailand, China (Seidenfaden, 1992) and Flora of Thailand 2014. Cambodia Laos, Myanmar, and Thailand, Vietnam. (Flora of China, Vol.25)
- Ecology - Epiphyte, on the trunk, Alt-1217 m, Hill evergreen forest.
Flowering Period- March –April

3.1. *Flickingeria nodosa* (Dalzell) Seidenfaden



Habit & Inflorescence

Flower

Segment of flower

Collum and anther cap

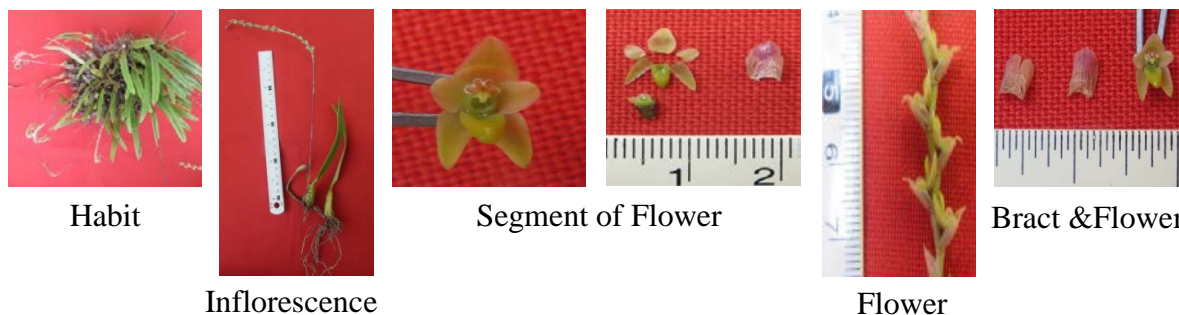
Flickingeria nodosa (Dalzell) Seidenfaden

Epiphyte. Rhizome creeping, internode about 2.5-3.5 cm long and 3-4 cm wide. Stem up erect and pendulous, branched. Pseudobulbs elongated fusiform with light furrow, greenish about 4-5.00 cm long and 1.00-1.2 cm wide, covered by sheath in young. Leaves shortly petiole, ovate to oblong, leathery, apex obtuse about 11.00 cm long and 1.5.00 cm wide. Inflorescence usually only flowered, adaxial, flower lasting half a day, peduncle very short with several thinly sheath. Flower white with baby pink lip, thinly textured, lasting half a day, 1.5 cm across, pedicle and ovary pale yellow, about 1.00 cm long and 1.00 mm wide, bract ovate acute scale like leaf, dull white 2.00 mm long and 1.00 mm wide. Dorsal sepal oblong lanceolate, acuminate, about 12.00mm long and 4.00 mm wide, milky white, reflexed, lateral sepals obliquely ovate lanceolate, base obliquely wide, creamy white with pale yellow base, larger than the dorsal sepal, mentum perpendicular to ovary, obtuse, about 3.00mm. Petals narrowly oblong, acuminate, the same color in sepals, smaller than the sepals. Lip trilobed, side lobed erect, subobovate, entire, about 6.00 mm apart, pale pink with red sport, mid-lobe flabellate in outline, margin undulate criped two half in apex, disk with two reddish purple lamellae extending from the base to apex of midlobe. Coloum stout with foot, about 7.00mm.

Note- (New record for Myanmar)

Myanmar Name- Nil

- Occurrence - Kalaw, Yee Aye reserved forest, N 20' 35' 12' E 96 33'
 Distribution - Myanmar, 2022. Southern India. ([http:// orchidspecies.com](http://orchidspecies.com))
 Ecology - Epiphyte, on the trunk, Alt-1242 m, Hill evergreen forest.
 Flowering Period- October

4.1. *Sunipia racemosa* (J.E.Sm.) Tang & Wang***Sunipia racemosa* (J.E.Sm.) Tang & Wang*****Lone siamensis* Rolfe, Kew Bull.1908:413**

Rhizome stout, creeping. Pseudobulb well-spaced on rhizome, 4.00 cm in part, soft, obliquely ovate, 3.5 cm long and 1.8 cm wide. Leaves blade oblong, obtuse, leathery with distinct petiole, retuse, 12.00 cm long 1.2 cm wide. Inflorescence raceme nodding with long peduncle with 20-30 flowers, 35.00 cm long, peduncle 18.20 cm long and erect with node and large several bract. Flower small, pale green with green lip, 8.00 mm long 5.00 mm wide with short pedicel and enclosed in floral bracts, pedicel 2.00 mm long 1.00 mm wide, bract pale brown, ovate acute about 7.00 mm long 6.00 mm wide. Dorsal sepal ovate concave, apex acute, pale green, 4.00 mm long 5.00 mm wide, thick, lateral sepals obliquely ovate, lower edge connected to each other apex acute, 4.00 mm long 2.00 mm wide pale green, thick. Petals obliquely ovate about 2.00 mm and 3.00 mm wide, soft. Lip ligulate, fleshy, 4.00 mm long and 2.00 mm wide, green with black spot on hypochile, glabrous, adaxial base with shallow shape. Column stout, short 2.00 mm long 1.00 mm wide. Pollinia top, 4 pollinia, with stripe 1.00 mm long and wide globose, yellow orange.

Myanmar Name- Nil

- Occurrence - Kalaw, Yee Aye reserved forest, N 20' 36' 12' E 96 32'
 Distribution - Nepal, Sikkim, NE India, Myanmar, Thailand, Yunnan. (Seidenfaden, 1982) and Flora of Thailand 2014.
 Ecology - Epiphyte, on the trunk, Alt-1242 m, Hill evergreen forest.
 Flowering Period - March - April

Discussions and Conclusions

This paper based on some collected wild orchids specimens. The present list is (1) subfamily, (1) tribe, (3) subtribe, (4) genera and (10) species. The subfamily Epidendroideae includes (1) tribe, (3), subtribe, (4) genera and (10) species. Genus *Eria*, *Dendrobium*, *Flickingeria* and *Sunipia* have been collected from study area. In recent study only one genus of *Eria* of subtribe Eriinae was recorded in recent study. One species of genus *Eria*, *Eria acervata* Lindl. which possess pseudobulb flask shape, closed, midlobe ovate acute incurved, white with two distinct yellow keels on each side.

Only two genus *Dendrobium* and *Flickingeria* of subtribe Dendrobiinae was recorded in study area. Seven species of genus *Dendrobium* are *D. seidenfadenii* Seng&Backer., *D. jenkinsii* (Wallich ex Lindley) Brieger *D.gregulus*. *D.suavissimum* Rchb.f. var. *chrysotoxum* Lindl. *D. findlayanum* Par.&Rchb.f. *D.formosum* Roxb.ex.Lindl. and *D.chrystallinum* Par.&Rchb.f. *D. seidenfadenii* contains deep orange flower, tripallte lip with three distinct keels ,two lateral keels are short and middle one is long this character with agree with Seidenfaden ,(1992). *D. jenkinsii* has oblong tetragonal closely pseudobulbs, golden yellow flower with deep yellow lip its agree with (Grant.B.1966). *D. gregulus* present erect inflorescence with 4-6 pale greenish yellow flowers and recurved broadly ovate lip with distinctly reddish purple veined. This species is new record for Myanmar and also threatened species.(<http://www.tropicos.org>). *D. findlayanum* possess pear shape upper swollen internode, pale lavender sepal and petals and orbicular lip with finely pubescent in upper portion and glabrous in base this character agree with Nantiya (2005) . *D.formosum* present large flower, white sepals and petals and broadly obovate white lip with dilated retuse yellow blotch in the center and two tubercled ridges and golden disk. *D.chrystallinum* has orbicular yellow lip with purple tip and large glassy papillose operculum. These character agree with mention by (Grand, 1966), (Seidenfaden, 1992) and (Henrik, *et. al*, 2014).

One species of genus *Flickingeria* is *Flickingeria nodosa*:possess white flower with pale pink lip, sidelobes pink with reddish purple sport and midlobe undulate crisped with two incurved apical half and two lamellae wavy keels. (Note- This species is new record for Myanmar and also found in only Southern India (<http://orchidspecies.com>) Only one genus *Sunipiea* of subtribe Sunipiinae was recorded in study area. One species of genus *Sunipiea* is *Sunipiea racemosa* possess pendulous inflorescence with greenish brown many flowers, ligulate fleshy green lip with black sport on hypochile. These character agree with mention by (Grand, 1966) , (Seidenfaden, 1992) and (Chen, *et.al* .Vol.25,2014). In this research paper all collected species are epiphyte. *Dendrobium gregulus* (Seidenfaden) regarded as threatened species (<http://www.tropicos.org>) *Dendrobium chrystallinum* Rchb.f. *D. findlayanum* Par.& Rchb.f. *D. formosum* Roxb in Wall. put in Appendix II (IUCN Red list conservation status, controlled trade) and *Eria acervata* are widely distributed in Yee Aye reserved forest and are included in Appendix II. Among them two species of *Dendrobium seidenfadenii*, *D.findlayanum* found only in Myanmar and Thailand (Seidenfaden, 1992) . *Dendrobium gregulous*, *D. seidenfadenii*, *Sunipia racemosa* are new record for Myanmar. *Eria acervata* was Chin, Mandalay and Thaninthari by (Kress *et. al*, 2003). but also found in Shan State in recent study.*D. formosum* was Bago, Chin, Mon, Rakhine, Sagaing, Taninthayi,Yangon by (Kress *et.at*,2003) but also collected in Shan State. Botanical collection are still needed to cover the whole floristic diversity of Myanmar, because botanical exploration have sharply decreased in Myanmar 1950. (Kress *at el*, 2003) and *Dendrobium gregulous*, *D. seidenfadenii*, *Sunipia racemosa* and *Flickingeria nodosa* is also new record for Myanmar and all collected species put in Myanmar Red list in 2022, March. (<http://phytokey.pensoft.net>)

Myanmar orchids flora have lagged behind being well documented and studied. So the orchidologist will have to find out continuously to get update current wild orchids information and report to government for protection of our living jewels.

Acknowledgements

Author wish to thank Dr. Theingi Shwe, Rector of Hinthada University, for allowing me to undertake this research paper. I also thankful to Dr. Yee Yee Than, Dr Cho Kyi Than, Pro Rector, Hinthada University for their understatement and encouragement. I am also grateful to U Kyaw Myo Naing (Forest Department, Kalaw Township) for his kind help, helping with forest type literature and collecting of specimens during field trip.

Reference

- Dassanayake, M.D. (1981). A Revised Handbook to the Flora of Ceylon Published by Amerind Publishing Co. Pvt. Ltd., New Delhi.
- Dressler, R.L. (1927) The Orchids: Natural History and Classification
- Yoshikata Tanaka, Nyan Htun, Tin Tin Yee (Ann) (2003). Wild Orchids of Myanmar Vol 1, 2, Printed in Thailand.
- Chen X., Liu., Z., Zhu GLang K., Ji Z., Luo Y., Jin X., Cribb P J., wood j.j., Gale S.W., Ormerod P., Vermeulen J.J., Wood H.P., Clayton D. and Bell A. Orchidaceae. (2013). In Flora of China, Vol-25. Wu, Z.Y. and P.H. Raven (Eds), Science Press Beijing and Missouri Botanical Garden, St.Louis.Pp.1-506.
- Henrik Æ. Pedersen, Hubert Kurzweil, Somran Suddee, Ed F. de Vogel, Phillip J. Cribb, Sahut Chantanaorrapint, Santi Watthanana, Stephan W. Gale, Tosak Seelanan & Chalernpol Suwanphakdee, (2014). Flora of Thailand. Vol. XII.
- Grant, B. (1966). The Orchid of Burma. Central press, Rangoon
- Holtum, R.E. (1964). Orchid of Malaya, Vol. I, 3rd edition reprinted. Published by Government, Printing Office Singapore.
- Kress, J. W., Robert, A.D. Farr, E., & Yin Yin Kyi. (2003). A Checklist of the trees, shrubs, and climbers of Myanmar. Vol 45:1-590, Department of Systematic Biology, National History, Washington. DC, USA.
- Seidenfeden Gunna. (1992). The Orchid of Indochina. Printed in Denmark. Aio Print Ltd, Odanse.

Website

- (<http://www.tropicos.org>)
- (<http://www.iucnredlist.org>)