Some Species of Sub-tribe Sarcantheae (Orchidaceae) Found in Some Western Parts of Southern Shan State

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Abstract

Orchids are the most interesting plants in tropical country for their beautiful and durable flowers.Some orchids are epiphytes and some are terrestrials. They are mostly distributed in hilly and mountain regions of Myanmar. Shan State is mostly covered by tropical evergreen forests and distributing with many wild orchids. The orchids were collected from some western parts of Southern Shan State mainly include Kalaw, Ywa-ngan and Yat-sauk Area. Their morphological characters together with their flowers' distinct characters were recorded during the flowering period. Totally 16 orchid species of Sub-tribe Sarcantheae were recorded and described their distinct morphological characters in colour plates.

Keywords: orchids, Sarcantheae

Introduction

Orchidaceous plants are monocotyledonous angiosperms. Orchidaceae is a very large family of about 450 genera and 10000 to 15000 species of wild distribution over the earth in all hemispheres.Hooker (1885) in his "The Flora of British India" included 123 genera and 1104 species and varieties of orchids. In 1895, Grant reported that a total of 86 genera and 581 species and varieties of orchids were distributed in Myanmar.

Orchids may be distinguished from other flowering plants by the following floral characteristics:

1. The sexual organs of the flower (stamens and stigma) are incorporated into a single structure called the column.

2. The anthers are reduced in number to one or two and the pollen are massed into waxy structures known as pollinia.

3.One of the petals has evolved into a highly complex lip or labellum.

4. The ovary is inferior and is generally twisted through 180 degree (resupinate).

The sympodial (feet together) orchids grow as clumps of plants whose shoots (feet) are linked together at their base. Monopodial orchids do not have pseudobulbs and exist as singled stemmed individual plants. They are found in the tropical and subtropical regions of Asia, Africa and Australia where they grow as epiphytes.

According to Hooker, the Orchidaceae are divided into four Tribes such as Epidendreae,Vandeae, Oprydeae, and Cypripedieae. The Tribe Vandeae is also divided into Eulophieae, Cymbideae and Sarcantheae.The general characters of Subtribe- Sarcantheae are Stems without pseudobulbs, rooting. Leaves distichous (rarely 0), not plaited. Peduncles lateral or axillary.Collected Genera in Subtribe- Sarcantheae are *Luisia ,Rhynchostylis, Vanda, Holcoglossum,Papilionanthe, Acampe, Cleisostoma, Ornithochilus,* and *Pelatantheria.*

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The orchids were collected from some western parts of Southern Shan State mainly from Kalaw, Ywa-ngan and Yat-sauk Area. Totally 16 species belonging to 9 Genera of orchids in Tribe-Sarcantheae were recorded and described their distinct morphological characters incolour plates.

The aims and objectives of the present research are mainly to get a species inventory of the orchids and to understand the distribution of various kinds of wild orchids from study area, to provide the knowledge on the different natural resources of study area and to fulfill thecompilation of the flora inMyanmar

Materials and Methods

Orchidsare collected from the vicinity of western part of Southern Shan State.The fresh and herbarium specimens are used to identify the species. Identification of collected specimens was carried out by referring to Flora of British India (Hooker 1881-87), Flora of Java (Backer 1965) and Flora of Ceylon (Dassanayake, MD., 1980-2001).

Results

1. *Luisia psyche* Reichb.f.in Bot.Zeit.98.1836.

The distinct characters of this species are :

Monopodial epiphytes, alternate and terete and rigid, coriaceous leaves, axillary short racemes with 1-to 3-flowers, petals are much longer than the sepals; pale greenish yellow labellum with violet tessellate, 2-globose pollinia.

2 .*Luisia teretifolia* Gaudich. in Freyc. Voy.Bot.426.t.37.1820.

The distinct characters of this species are: Monopodial epiphytes, alternate and terete and rigid , coriaceous leaves, axillary short racemes with 1-to 3-flowers, petals and sepals more or less equal in length ; pale greenish yellow with violet specklets without tessellated labellum, 2-globose pollinia.

3.*Rhynchostylis gigantea* Ridl. Journ.Linn.Soc.32.358.

Vernacular Name: Kyaung-myee-tu

The distinct characters of this species are: Monopodial epiphytes, alternate and oblong shaped and thickly coriaceous, up to 42.0 cm long leaves, axillary racemes with 27-to 50-flowers, white with purple spots sepals and petals, laterally compressed and pubescent within spur, 2 globose or pyriform pollinia.

4. *Rhynchostylis retusa* , Blume,Bijdr.286,pl.49.1825.


The distinct characters of this species are: Monopodial epiphytes, alternate and distichous,oblong shaped and thickly coriaceous leaves, axillary racemes white with purple spots sepals and petals, 3-lobed and purple colour labellum, laterally compressed and pubescent within spur, 2 globose or pyriform pollinia .

5. *Vanda bensonii* Batem.in Bot.Mag. 1 .5611.1864.


Vernacular Name: Moe thuzar

The distinct characters of this species are:

monopodial epiphytes, oblong leaves, axillary elongated racemes showy flowers, dull yellow with brown tessellation within and pale pinkish purple without sepals and petals, cone–like spur, orbicular pollinia and oblong stigmatic surfaces.

6. *Vanda coerulea* Griff. ex. Lindl. in.Bot. Reg. Sub. t. 30.1847.


Vernacular Name: Mo-lone-hmaing.

The distinct characters of this species are:

monopodial epiphytes, oblong leaves, axillaryelongated racemes large and showy flowers pale to fairly darker blue tessellated sepalsand petals, cone –like spur, obovoid pollinia and orbicular stigmatic surfaces.

7. *Vanda coerulescens* Lindl. in. Journ.Hort.Soc. 6:8.1857.

Vernacular Name: Moe-lone-hmaing-ga-lay

The distinct characters of this species are: monopodial epiphytes, oblong leaves, axillary elongated racemes(up to 53 cm in length),many showy flowers, light violet blue sepals and petals, cone –like spur, orbicular pollinia and oblong stigmatic surfaces.

8. *Vanda denisoniana,* Benson & Reichb. f. in . Gard.Chron. 1869: 528;1885.

Vernacular Name: Tha yet hte

The distinct characters of this species are: monopodial epiphytes, oblong leaves, axillary racemes, showy flowers, dull yellowish-green with brownish-red speckles within and pale yellowish-green without sepals and petals, cone –like spur, sub- globose pollinia and obovoid stigmatic surfaces.

9. *Vanda testacea* (Lindl .) Rchb.f., Gard. Chron.2:166.1877.

Vernacular Name: Waso pan

The distinct characters of this species are: monopodial epiphytes, oblong leaves, axillary many flowered racemes, yellow colour sepals and petal with purple colour labellum, oblongoid pollinia and trigonous with ridges ovary.

10. *Holcoglossum amesianum* (Rchb.f) Christensen.44; 2 :233.1987.

Venacular Name: Moe-Kadot/ Yay-Hmwe-pan.

The distinct characters of this species are: Monopodial epiphytes, sub-semi-terete leaves with deep longitudinal furrow on the upper surfaces and deep green in colour, axillary racemes, showy and very fragrant flowers, globose pollinia with orange-yellow colour and triangular stigmatic surfaces.

11. *Holcoglossum kimballianum* (Rchb.f) Garay.23;4:182. 1972


The distinct characters of this species are: monopodial epiphytes, oblong and sub-terete with channelled leaves, axillary racemes, large and showy flowers, with brownish-red light pink to light pinkish-purple sepals and petals with reddish-purple labellum , long funnel shaped spur, sub- globose pollinia and obovoid stigmatic surfaces.

12. *Papilionanthe teres* (Roxb.) Schltr. 1915.


The distinct characters of this species are: monopodial epiphytes, oblong terete leaves, axillary racemes, large and showy flowers, laterally compressed and funnel shaped spur, sub-globose pollinia and oblongoid stigmatic surfaces.

13.*Acampe papillosa* Lindl.Fol.Orch . Acampe. 2.1853.


The distinct characters of this species are: Monopodial epiphytes, alternate and distichous oblong leaves, axillary corymbose inflorescences with slightly fragrant flowers, yellow with reddish –brown spots sepals and petals , white labellum with purple spots and with basally saccate spur.

14. *Cleisostoma arietinum* (Rchb.f) Garay.Bot.Mus.Leafl.HarvardUniv.23.4:169.1972.


The distinct characters of this species are : monopodial epiphytes, normal leafy stems with terete, rigid green to dull reddish-purpleleaves, axillary more or less droopingracemes with very small greenish-yellowflowers, reddish-purple labellum, 4 pollinia united into 2 round bodies.

15.***Ornithochilus difformis*** Schltr.Repert.Spec.Nov.Regni. Veg.Beih.4:277.in obs.1919.

The distinct characters of this species are: monopodial epiphytes; elliptic oblong leaves; axillary racemes or panicles; yellow with red streaks flowers, fimbriate margins labellum with short incurved spur.

16.*Pelatantheria insectifera* Ridl.Journ.Linn.Soc.32:373.1896.

The distinct characters of this species are: Monopodial epiphytes, alternate and distichous,oblong and thickly coriaceous leaves,axillary short racemes with 3- 5 flowers, greenish-yellowor dull yellow with reddish brown stripes and shallowly 3-lobed reddish-purple labellum, 2 globose pollinia.

Discussion and Conclusion

The Orchidaceae is a very large family of about 450 genera and 10000-15000 species, of the wide distribution over the earth in all hemispheres but most abundant in the tropics, where the majority of genera are epiphytes. Most of the genera of the temperate and all those of the arctic regions are terrestrials. (Lawrence, 1951)

All the collected species of Sub-tribe Sarcantheae are monopodial epiphytes, normal leafy stems, leaves are terete, or semi-terete or oblong and flat shped and pollinia are two or four pollinia united into 2 round bodies.*Rhynchostylis* is a small genus with only four species, two of which are found in studied area. They are *Rhynchostylisgigantea* and *Rhynchostylis retusa*; the two remain species *Rhynchostylis coelestis* and *Rhynchostylis violacea* are not found in studied area. Some species of *Vanda* are now cultivated in the garden by local people.

Orchids are not only significant worldwide in the horticulture industry, but in many countries, they are valued locally for their medicinal, nutritional and ornamental qualities.

Most of the orchids can be found in Ywa-ngan township where the elevationand humidity is high. Most of forest area is strictly defined as retained area and it is not allow tocut down the trees of local peoples for various purposes in this area. Therefore, the future of wild orchids is hopefully in good condition if orchid hunters are not allowed in the forests for illegal searching and trading of orchids.

Therefore it can be concluded that some of the valuable orchids are still widely thrived in the study area and it is needed to conserve the orchid resources from extinctions of rare species.In Shan state, orchid plants that are the pride of the state and once thrived abundantly, are now endangered due to over collection and deforestation. The loss of national resources of Myanmar could be prevented by prohibiting collection and selling of

orchids without due consideration. Protecting and conserving the forests is a National Duty for the state and future generation.

It is sincerely hoped that the present paper can stand up valuable information for the further investigation of students, orchids hunters, orchid crazy, researchers who are facing with some difficulties to know about the species, and any ones who are looking for the diversity of the members of the genus, and so many interest peoples upon the orchids. This study will partially compilation of the flora of Myanmar.

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