



RESEARCH ARTICLE

PERFORMANCE OF SOME VANDA HYBRIDS AT SIKKIM HIMALAYA

*De, L.C., Devadas, R., Singh, D.R., SumanThapa and Wilson Rai

ICAR-NRC for Orchids, Pakyong-737106, Sikkim

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ABSTRACT

The Vanda orchids are totally tropical and are cross compatible with other genera like *Ascocentrum*, *Aerides*, *Rhyncostylis*, *Neofinetia*, *Renanthera* and even *Phalaenopsis*. All orchids having the same characteristics as the *Vanda* genus is called as a vandaceous orchid and they grouped together to form the *Vanda Alliance*. Genera like *Vandas*, *Aerides*, *Ascocentrum*, *Renanthera*, *Rhyncostylis*, *Aranda*, *Mokara*, *Kagawara* are included in the *Vanda Alliance*. They are ideal for cut flowers, hanging baskets, pots or tree logs. The present investigation was carried out with 18 hybrids of Vanda orchids which were grown with recommended package of practices under greenhouse condition. Observations were taken on 65 morphological characteristics which could be used in future for crop improvement programme for developing new Vanda hybrids.

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INTRODUCTION

Vanda consists of more than 70 species of monopodial epiphytic orchids distributed in India, China, The Himalayas, Sri Lanka, Philippines and throughout South East Asia. These commercial orchids are grown in Thailand, Singapore, Malaysia and Hawaii. They are diversified in vegetative and reproductive growth. Based on leaf characters they grouped into four categories, e.g., strap shaped, terete, semi-terete and channeled. The lip of strap shaped leaves is very irregular while the terete leaves are of pencil thickness. The inflorescence arise from the axil of the leaves in strap leaved orchids whereas in case of terete leaved orchids inflorescence emerge from on the side of the stem of opposite leaf. The inflorescence is axillary, erect, and simple. The flowers are small to large, few to many, fleshy, heavy textured, long lasting and yellow, brown, purple, magenta, blue, lavender in colour. The flower size varies from 2.5 to 10 cm (De et al, 2014). The Vanda orchids are totally tropical and are easy to grow. Some species can be exposed to full sun. They are cross compatible with other genera like *Ascocentrum*, *Aerides*, *Rhyncostylis*, *Neofinetia*, *Renanthera* and even *Phalaenopsis*.

All orchids having the same characteristics as the *Vanda* genus is called as a vandaceous orchid and they grouped together to form the *Vanda Alliance*. Genera like *Vandas*, *Aerides*, *Ascocentrum*, *Renanthera*, *Rhyncostylis*, *Aranda*, *Mokara*, *Kagawara* are included in the *Vanda Alliance*. They are ideal for cut flowers, hanging baskets, pots or tree logs. Leaf juice of *Vanda coerulea* is used against diarrhea, dysentery and external application for skin diseases. Leaf paste of *Vanda teres* is applied to reduce temperature in fever. Leaves of *Vanda cristata* are used as tonic and expectorant. In *Vandatessellata*, paste of leaves is effective against fever. It is ingredient of RasnaPanchakaQuatha. In Ayurvedic medicine, it is used in the treatment of arthritis and rheumatism. The leaf juice extract is used in the treatment of otitis media. The root is an effective against scorpion sting and bronchitis.

MATERIALS AND METHODS

The present investigation was carried out with 18 hybrids of Vanda orchids comprising V. Sirilak x V. Thongchai, V.RBV 10 x V. Dr. Anek, V. Pakchong Blue, V. RBSD Blue, V. Ratch Blue Stars, V. Madam Rattana x V. Manuvadee, V. RBSD Pink, V. RBV 10 x V. Fusch's Delight, V. Sansai Blue, V. Motes Indigo Blue, V. Odgen Phipps x V. *coerulea*, V. Pat Delight, V. RBS Red, V. Robert's Delight Blue, V. KS. SD, V. Prao Sky Blue, V. Pures Wax and V. RBSD Black at

ICAR-NRC for Orchids, Pakyong-737106, Sikkim during 2014-2015. The experiment was conducted in CRD design with 5 replications and the plants were grown under protected condition with a light intensity of 4000 foot candles, 50 % shade, a minimum temperature of 16-18°C at night and a maximum of 30-32°C in the summer. Being a monopodial growth habit, the plants cannot retain water for any great length of time. It is therefore watered all these plants as early in the morning as possible, so that by noon the foliage of the plants dry up and the humidity level is maintained upto 70-75%. A potting mixture consisting of Cocochips + brick pieces + leaf fern/tree bark (1:1:1) was used for growth and flowering of the plants.

(cm), inflorescence orientation, inflorescence nature, number of flowers/inflorescence, orientation of flowers, flower length (cm), flower width (cm), flower fragrance, flower longevity on plants, flower predominant colour, dorsal sepal size (cm), dorsal sepal shape, dorsal sepal curvature, dorsal sepal apex, lateral sepal size (cm), lateral sepal shape, lateral sepal curvature, lateral sepal apex, inside sepal colour, outside sepal colour, colour ornamentation in sepals, petal size, petal shape, petal curvature, petal apex, petal margin, inside petal colour, outside petal colour, inside petal ornamentation, outside petal ornamentation, lip length (cm), lip width (cm), lip mid lobe shape, lip lateral lobe shape, lip curvature, lip apex, keels no.s, inside lip colour, outside lip colour, inside lip ornamentation,

Table 1. Important vegetative parameters in *Vanda* hybrids

Name of hybrids	Internode length (cm)	Stem diameter (cm)	Leaf type	Leaf length (cm)	Leaf apex	Leaf orientation
V. Sirilak x V. Thongchai	1.1	1.6	Strap	29.1	Praemorse	Arching
V. RBV 10 x V. Dr. Anek	1.5	1.2	Strap	27.0	Praemorse	Deflexed
V. Pakchong Blue	1.0	2.5	Strap	19.0	Praemorse	Deflexed
V. RBSD Blue	1.0	1.4	Strap	31.0	Praemorse	Deflexed
V. Ratch Blue Stars	1.3	1.4	Strap	26.4	Praemorse	Deflexed
V. Madam Rattana x V. Manuvadee	1.5	1.2	Strap	20.0	Bilobed	Arching
V. RBSD Pink	1.0	1.5	Strap	26.0	Praemorse	Arching
V. RBV 10 x V. Fusch's Delight	1.6	1.5	Strap	29.5	Praemorse	Arching
V. Sansai Blue	1.5	1.2	Strap	22.3	Bilobed	Deflexed
V. Motes Indigo Blue	1.5	1.4	Strap	18.5	Bilobed	Deflexed
V. Odgen Phipps x <i>V. coerulea</i>	1.5	1.5	Strap	17.8	Bilobed	Arching
V. Pat Delight	1.2	1.3	Strap	24.9	Praemorse	Arching
V. RBS Red	1.4	1.7	Strap	23.5	Praemorse	Arching
V. Robert's Delight Blue	1.5	1.5	Strap	26.0	Bilobed	Horizontal
V. KS. SD	0.9	1.4	Strap	26.6	Retuse	Arching
V. Prao Sky Blue	1.3	1.3	Strap	15.8	Praemorse	Horizontal
V. Pures Wax	1.4	1.5	Strap	29.9	Praemorse	Deflexed
V. RBSD Black	1.5	1.2	Strap	27.0	Retuse	Arching

Table 2. Important qualitative floral characters in *Vanda*

Name of hybrids	Flower main colour	Sepal colour pattern	Petal colour pattern	Lip colour pattern	Column colour pattern
V. Sirilak x V. Thongchai	Purple	Spotted/ netted	Spotted/ netted	Spotted/striped	Shaded
V. RBV 10 x V. Dr. Anek	Purple	Spotted	Spotted	Spotted/striped	Shaded
V. Pakchong Blue	Violet	Netted	Netted	Shaded/striped	Shaded
V. RBSD Blue	Violet	Spotted	Spotted	Spotted/striped	Shaded
V. Ratch Blue Stars	Violet	Spotted	Spotted	Spotted/striped	Shaded
V. Madam Rattana x V. Manuvadee	Purple	Tessellated	Netted	Striped	Shaded
V. RBSD Pink	Purple	Spotted/ netted	Spotted	Spotted/striped	Shaded
V. RBV 10 x V. Fusch's Delight	Red purple	Spotted/ netted	Spotted	Striped	Shaded
V. Sansai Blue	Violet	Netted	Netted	Shaded/striped	Shaded
V. Motes Indigo Blue	Violet	Netted	Netted	Spotted/striped	Shaded
V. Odgen Phipps x <i>V. coerulea</i>	Violet	Netted	Netted	Spotted/striped	Shaded
V. Pat Delight	Purple	Spotted	Spotted	Spotted/striped	Shaded
V. RBS Red	Red purple	Netted	Spotted	Spotted/striped	Shaded
V. Robert's Delight Blue	Violet	Spotted	Spotted/ blotched	Spotted/striped	Shaded
V. KS. SD	Violet	Spotted/ netted	Spotted/ netted	Striped	Shaded
V. Prao Sky Blue	Violet	Netted	Netted	Striped	Shaded
V. Pures Wax	Violet	Spotted/ netted	Spotted	Striped	Shaded
V. RBSD Black	Purple	Spotted/netted	Spotted	Spotted/striped	Shaded

Observations were taken on 65 morphological characteristics and those are plant type, internode length (cm), stem diameter (cm), root location, leaf type, leaf breadth (cm), leaf length (cm), leaf apex, leaf orientation, leaf colour, leaf sheath pigmentation, number of spikes/plant at a time, number of spikes /plant/year, inflorescence length (cm), peduncle length

outside lip ornamentation, column length (cm), inside column colour, outside column colour, inside column ornamentation, outside column ornamentation, pedicellate ovary length (cm), spur type, spur length (cm) and flowering season.

Table 3. Important quantitative floral characters in Vanda

Name of hybrids	Inflorescence length (cm)	No. of flowers/ inflorescence	Flower width (cm)	Dorsal sepal size (cm x cm)	Lateral sepal size (cm x cm)	Petal size (cm x cm)	Lip length (cm)	Column length (cm)	Spur length (cm)
V. Sirilak x V. Thongchai	31.3	6.3	9.1	5.4x5.0	5.2x6.0	4.5x4.6	2.0	0.8	0.9
V.RBV 10 x V. Dr.Anek	45.0	7.0	9.0	4.0x4.5	4.4x4.7	4.0x4.4	2.0	0.7	0.6
V. Pakchong Blue	43.5	7.0	10.2	5.0x4.1	5.6x5.2	5.2x4.1	2.1	0.7	1.0
V. RBSD Blue	21.0	3.0	7.8	4.0x4.2	4.3x5.0	3.06x3.9	1.9	0.8	1.0
V. Ratch Blue Stars	33.5	7.5	9.0	4.9x4.8	5.1x5.6	4.3x4.2	2.1	0.7	1.1
V. Madam Rattana x V. Manuvadee	22.2	3.0	7.3	3.5x3.8	4.1x4.4	3.4x3.3	2.0	0.7	1.1
V. RBSD Pink	23.0	2.0	11.6	6.0x6.0	6.1x7.2	5.5x5.2	2.2	0.8	1.0
V. RBV 10 x V. Fusch's Delight	26.5	6.0	9.9	5.2x5.3	5.4x6.3	4.7x4.5	2.1	0.8	1.0
V. Sansai Blue	27.3	4.3	10.0	4.9x4.1	5.5x5.1	5.0x4.2	2.0	0.8	1.0
V. Motes Indigo Blue	41.0	8.0	10.3	5.1x4.6	5.8x6.0	5.4x5.8	2.1	0.6	1.2
V. Odgen Phipps x <i>V. coerulea</i>	43.5	7.8	9.6	4.5x4.1	5.2x5.4	4.7 x 4.2	2.1	0.7	1.2
V. Pat Delight	26.30	3.8	10.1	5.1x5.6	5.5x6.3	4.8x4.7	2.1	0.8	1.1
V. RBS Red	33.30	5.3	11.2	6.1x5.7	6.1x6.8	5.3x5.2	2.2	0.8	1.2
V. Robert's Delight Blue	35.50	6.0	11.2	5.8x5.8	6.7x6.6	5.2x5.3	2.1	0.8	1.0
V. KS. SD	29.10	5.1	9.3	4.8x4.6	5.3x5.7	4.5x4.0	2.0	0.8	0.9
V. Prao Sky Blue	53.50	6.5	9.1	4.7x5.0	5.4x5.6	4.6x4.5	1.9	0.6	1.0
V. Pures Wax	33.1	7.5	10.0	4.6x4.8	5.4x5.7	4.7x4.5	2.1	0.7	1.1
V. RBSD Black	28.0	5.0	9.3	4.8x4.2	5.3x5.5	4.2x3.8	2.2	0.6	0.9

Table 4. Important pseudo-qualitative characters in Vanda

Name of hybrids	Inflorescence orientation	Dorsal sepal shape	Dorsal sepal curvature	Lateral sepal shape	Lateral sepal curvature	Petal shape	Petal curvature	Petal margin	Spur type
V. Sirilak x V. Thongchai	Arching	Cordate	Straight	Cordate	Deflexed	Elliptic	Deflexed	Undulate	Saccate
V.RBV 10 x V. Dr.Anek	Arching	Orbicular	Incurved	Cordate	Incurved with deflexed apex	Orbicular	Incurved with deflexed apex	Undulate	Conical
V. Pakchong Blue	Horizontal-arching	Orbicular	Straight	Cordate	Incurved with deflexed apex	Orbicular	Incurved with straight apex	Undulate	Conical
V. RBSD Blue	Erect	Ovate	Straight	Elliptic	Deflexed	Elliptic	Incurved with straight apex	Undulate	Conical
V. Ratch Blue Stars	Erect	Ovate-oblong	Straight	Cordate	Deflexed	Orbicular	Incurved with deflexed apex	Undulate	Conical
V. Madam Rattana x V. Manuvadee	Erect	Cordate	Incurved to straight	Cordate	Incurved with deflexed apex	Orbicular	Incurved with deflexed apex	Undulate	Conical
V. RBSD Pink	Arching	Cordate	Straight	Orbicular	Incurved with deflexed apex	Orbicular	Straight to deflexed	Entire	Conical
V. RBV 10 x V. Fusch's Delight	Arching	Ovate	Deflexed	Cordate	Straight to deflexed	Orbicular	Deflexed	Undulate	Conical
V. Sansai Blue	Erect	Orbicular	Incurved with straight apex	Ovate	Incurved with straight apex	Spatulate	Incurved with straight apex	Undulate	Conical
V. Motes Indigo Blue	Erect-horizontal	Ovate	Incurved with straight apex	Cordate	Incurved with deflexed apex	Cordate	Straight	Undulate	Conical
V. Odgen Phipps x <i>V. coerulea</i>	Erect-horizontal	Ovate-orbicular	Straight	Cordate	Straight	Orbicular	Straight	Entire	Conical
V. Pat Delight	Erect-horizontal	Cordate	Straight	Orbicular	Straight	Orbicular	Straight	Undulate	Conical
V. RBS Red	Erect-horizontal	Ovate to cordate	Incurved with straight apex	Orbicular	Incurved with straight apex	Orbicular	Incurved with straight apex	Undulate	Conical
V. Robert's Delight Blue	Erect	Obovate	Straight	Orbicular	Deflexed	Spatulate	Straight	Undulate	Conical
V. KS. SD	Erect-horizontal	Orbicular	Straight	Orbicular	Straight	Orbicular	Straight	Undulate	Conical
V. Prao Sky Blue	Erect-horizontal	Ovate	Straight	Cordate	Deflexed	Orbicular	Straight	Undulate	Conical
V. Pures Wax	Horizontal	Cordate	Incurved with deflexed apex	Cordate	Incurved with deflexed apex	Ovo-Orbicular	Straight	Undulate	Conical
V. RBSD Black	Erect-horizontal	Obovate -orbicular	Deflexed	Orbicular	Deflexed	Elliptic orbicular	- Incurved	Undulate	Conical

RESULTS AND DISCUSSION

It is evident from Table 1 that there is significant variation in vegetative parameters such as internode length, stem diameter and leaf length. Out of 18 Vanda hybrids, maximum internode length was recorded in V. RBV 10 x Fusch’s Delight (1.6 cm) and minimum with V. KS.SD (0.9 cm). V. Pakchong Blue had shown highest stem diameter (2.5cm). Longest leaf was found in V. RBSD Blue (31cm).

V. RBSD Black, V. KS. SD. Arching type of leaf orientation was observed in V. Sirilak x V. Thongchai, V. Madam Rattana x V. Manuvadee, V. RBSD Pink, V. RBV 10 x V. Fusch’s Delight, V. Odgen Phipps x V. *coerulea*, V. Pat Delight, V. RBS Red, V. KS. SD and V. RBSD Black; deflexed in V.RBV 10 x V. Dr.Anek, V. Pakchong Blue, V. RBSD Blue, V. Ratch Blue Stars, V. Sansai Blue, V. Motes Indigo Blue and V. Pures Wax and V. Robert’s Delight Blue and V. Prao Sky Blue had horizontal type of leaf orientation.

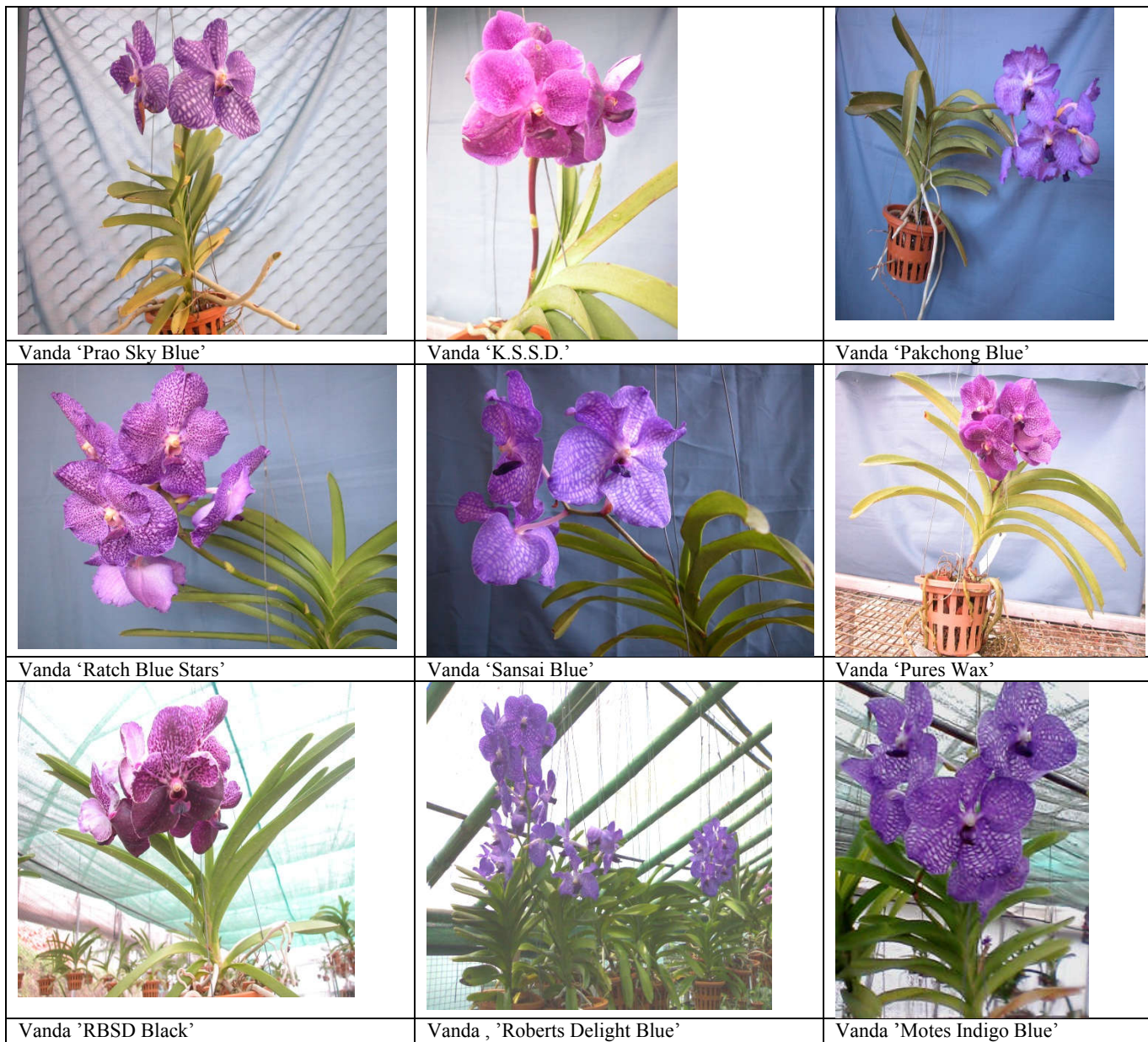


Fig. 1. Important Vanda hybrids used for cut flowers

All the hybrids had strap type of leaves. Praemorse type of leaf apex was recorded in V. Sirilak x V. Thongchai, V.RBV 10 x V. Dr.Anek, V. Pakchong Blue, V. RBSD Blue, V. Ratch Blue Stars, V. RBSD Pink, V. RBV 10 x V. Fusch’s Delight, V. Pat Delight, V. RBS Red, V. Prao Sky Blue, V. Pures Wax; bilobed in V. Madam Rattana x V. Manuvadee, V. Sansai Blue, V. Motes Indigo Blue, V. Odgen Phipps x V. *coerulea* and V. Robert’s Delight Blue and retuse leaf apex in

Purple as flower main colour was recorded in V. Sirilak x V. Thongchai, V.RBV 10 x V. Dr.Anek, V. Madam Rattana x V. Manuvadee, V. RBSD Pink, V. Pat Delight and V. RBSD Black; violet as flower main colour in V. Pakchong Blue, V. RBSD Blue, V. Ratch Blue Stars, V. Sansai Blue, V. Motes Indigo Blue, V. Odgen Phipps x V. *coerulea*, V. Robert’s Delight Blue, V. KS. SD, V. Prao Sky Blue, V. Pures Wax and red purple in V. RBV 10 x V. Fusch’s Delight and V. RBS

Red (Table 2). Almost all hybrids had shown spotted or netted type of sepal colour pattern and petal colour pattern except tessellated in *V. Madam Rattana* x *V. Manuvadee*. Spotted or striped lip colour pattern was found in most of the hybrids. All the 18 hybrids had shaded type of column colour pattern.

Among quantitative floral characters, significant variation was recorded in inflorescence length, number of flowers per inflorescence and flower width. Longest inflorescence was observed in *V. Prao Sky Blue* (53.50cm) followed by *V. RBV 10 x V. Dr.Anek* (45cm) and shortest in *V. RBSD Blue* (21cm). Highest number of flowers per inflorescence was noted in *V. Motes Indigo Blue* (8) followed by *V. Odgen Phipps x V. coerulea* (7.8) and lowest in *V. RBSD Pink* (2). *V. RBSD Pink* had maximum flower width (11.6cm), dorsal sepal size (6cm x 6cm), lateral sepal size (6.1cm x 7.2cm) although flower width more than 10cm was recorded in *V. Pakchong Blue*, *V. Sansai Blue*, *V. Motes Indigo Blue*, *V. Pat Delight*, *V. RBS Red*, *V. Robert's Delight Blue* and *V. Pures Wax*. *V. Motes Indigo Blue* had maximum petal size (5.4 cm x 5.8 cm). Minor variation was recorded in lip length (1.9 to 2.2 cm), column length (0.6 to 0.8cm) and spur length (0.6 to 1.2cm) (Table 3).

It is revealed in Table 4 that all the *Vanda* hybrids varied in pseudo-qualitative characters and amongst them, arching type of inflorescence was noticed in *V. Sirilak x V. Thongchai*, *V. RBV 10 x V. Dr.Anek*, *V. RBV 10 x V. Fusch's Delight*, *V. RBSD Pink*; erect type in *V. RBSD Blue*, *V. Ratch Blue Stars*, *V. Madam Rattana x V. Manuvadee*, *V. Sansai Blue*, *V. Robert's Delight Blue*; erect-horizontal in *V. RBS Red*, *V. Odgen Phipps x V. coerulea*, *V. Pat Delight*, *V. Motes Indigo Blue*, *V. KS.SD*, *V. RBSD Black*, *V. Prao Sky Blue* and horizontal in *V. Pures Wax*. Dorsal sepal shape varied as cordate in *V. Sirilak x V. Thongchai*, *V. RBSD Pink*, *V. Madam Rattana x V. Manuvadee*, *V. Pat Delight*, *V. Pures Wax*; orbicular in *V. Pakchong Blue*, *V. RBV 10 x V. Dr.Anek*, *V. Sansai Blue*, *V. KS. SD*, and ovate in *V. RBSD Blue*, *V. RBV 10 x V. Fusch's Delight*, *V. Motes Indigo Blue* and *V. Prao Sky Blue*. Straight dorsal sepal curvature was observed in *V. Ratch Blue Stars*, *V. Pakchong Blue*, *V. RBSD Blue*, *V. Sirilak x V. Thongchai*, *V. RBSD Pink*, *V. Odgen Phipps x V. coerulea*, *V. Pat Delight*, *V. Prao Sky Blue*, *V. KS. SD*, *V. Robert's Delight Blue*; incurved in *V. RBV 10 x V. Dr.Anek*; deflexed in *V. RBV 10 x V. Fusch's Delight* and *V. RBSD Black* and incurved with straight apex in *V. Sansai Blue*, *V. RBS Red*, *V.*

Motes Indigo Blue and incurved with deflexed apex in *V. Pures Wax*. Lateral sepal shape varied from cordate in *V. Pakchong Blue*, *V. RBV 10 x V. Dr.Anek*, *V. Sirilak x V. Thongchai*, *V. Madam Rattana x V. Manuvadee*, *V. Ratch Blue Stars*, *V. RBV 10 x V. Fusch's Delight*, *V. Odgen Phipps x V. coerulea*, *V. Motes Indigo Blue*, *V. Pures Wax*, *V. Prao Sky Blue*; elliptic in *V. RBSD Blue*; ovate in *V. Sansai Blue* and to orbicular in *V. RBSD Pink*, *V. Pat Delight*, *V. RBS Red*, *V. RBSD Black*, *V. KS. SD*, *V. Robert's Delight Blue*. Deflexed lateral sepal curvature was found in *V. Sirilak x V. Thongchai*, *V. RBSD Blue*, *V. Ratch Blue Stars*, *V. Robert's Delight Blue*, *V. Prao Sky Blue* and *V. RBSD Black*.

Incurved with deflexed apex was recorded in *V. RBV 10 x V. Dr.Anek*, *V. Pakchong Blue*, *V. Madam Rattana x V. Manuvadee*, *V. RBSD Pink*, *V. Motes Indigo Blue*, *V. Pures Wax* and straight lateral sepal was recorded in *V. Odgen Phipps x V. coerulea*, *V. KS. SD*, *V. Pat Delight*. Petal shape varied from elliptic in *V. Sirilak x V. Thongchai*, *V. RBSD Blue*, spatulate in *V. Sansai Blue*, *V. Robert's Delight Blue* and to orbicular in *V. RBV 10 x V. Dr.Anek*, *V. Pakchong Blue*, *V. Ratch Blue Stars*, *V. RBV 10 x V. Fusch's Delight*, *V. RBSD Pink*, *V. Madam Rattana x V. Manuvadee*, *V. Odgen Phipps x V. coerulea*, *V. Pat Delight*, *V. RBS Red*, *V. Prao Sky Blue* and *V. KS. SD*. Petal curvature was noted as straight in *V. Motes Indigo Blue*, *V. Odgen Phipps x V. coerulea*, *V. Pat Delight*, *V. Pures Wax*, *V. KS. SD*, *V. Prao Sky Blue*, *V. Robert's Delight Blue*; incurved in *V. RBSD Black*; deflexed in *V. Sirilak x V. Thongchai* and *V. RBV 10 x V. Fusch's Delight*; incurved with straight apex in *V. RBS Red*, *V. RBSD Blue*, *V. Sansai Blue* and *V. Pakchong Blue* and incurved with deflexed apex in *V. Madam Rattana x V. Manuvadee*, *V. Ratch Blue Stars* and *V. RBV 10 x V. Dr.Anek*. Almost all the hybrids had undulate type of petal margin except in *V. RBSD Pink* and *V. Odgen Phipps x V. coerulea*. Conical type of spur was recorded in almost all hybrids except saccatetype in *V. Sirilak x V. Thongchai*.

Vanda hybrids showing significant variation in morphological vegetative and floral characters could be used as parents for developing new hybrids. *Vanda* 'Miss Joaquim' is said to have taken the form of *V. hookeriana* and the colour of *V. teres* (Tim Wing Yam, 2001). Fuchs (1997) reported that *Vanda sanderiana* and *V. coerulea* are the two important *Vanda* species found in the background of most of the *Vandaceae* hybrids. *V. sanderiana* gives full form, whereas *V. coerulea* imparts the rich blue violet colouration, lobely tessellation as well as the long inflorescence. Some of the important hybrids of *Vanda* which contributed as parent plant for production of many more hybrids are 'Amoene', 'Betsy Summer', 'Bull Sutton', 'Eisenhower', 'Ellen Noa', 'Emily Notley', 'Ernest', 'Fujinaga', 'Frank Crook', 'Haledena', 'Helen Reynolds', 'Hilo Blue', 'Honolulu', 'Jennie Hashimoto', 'Josephine Van Bero', 'Kapolio', 'Manila', 'Manisaki', 'Miss Joaquim', 'Noel', 'Nora Potter', 'Norbert Alphanso', 'Onomea', 'Poepoe', 'Rubella', 'Ruby Prince', 'Tan Chay Yan', 'Tatzeri', 'Trimerrill', 'Trisher', 'Venus' and 'Waipuna' (De and Bhattacharjee, 2011). A variant can be registered if it essentially fulfils the criteria of Distinctiveness, Uniformity and Stability (DUS) which means that the candidate variety must be distinguishable by at least one essential characteristic from a variety which is sufficiently uniform in expression of its essential characteristics which should remain fixed even after repeated multiplication. The variety should also have a single and distinct denomination (Henke, 2008).

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