

# The Genus Dendrobium

**Nova Acta Regiae Soc. Sci. Upsal. 6: 82 (1799), nom. cons.**

**Type: Dendrobium [Den.] moniliforme**

[den-DHOH-bee-um tess-sel-LAY-tah]

Dendrobium is the second largest genus after Bulbophyllum with over 1200 species ranging through all parts of East Asia (India east and north to Korea / Japan), Australia, and the southwest Pacific Islands. It is the second most



Dendrobium moniliforme  
'Banriko' AM/AOS  
Apr 1994, NS 4.8 x 6.2 cm

common orchid genera in cultivation after the Cattleyas. They grow in habitats ranging from semi-desert to rainforest, from hot steamy lowlands to

the Himalayan foothills to New Guinean altitudes of 3800 meters (12,500 ft.). Most are equally at home as either epiphytes or sometimes lithophytes and there are even a few terrestrials. Being such a large group of species, the vegetative growth can range from vine like, to stems, to pseudobulbs up to five meters long. While they differ widely in their vegetative characters, there are features of the flowers that unite the genera. The column has a prominent foot and the flowers usually have a spur formed from the column foot or by the lip and column foot; the anther is terminal with two cells and four naked pollinia in two pairs without caudicles or viscidia. The most identifying feature is the mentum that is formed by the fusion of the column foot with the bases of the lateral sepals. The lip is divided into a claw and lamina, with the claw fused to the base of the column foot. The variety of brightly colored flowers can last for 1 day to months dependent on the species. This very diverse group results in species cultural requirements need to be customized for each species.

Of the roughly 1200 species only 283 have been used in hybridization while 405 have received an award. I would be surprised there aren't hidden gems yet to be found in this genus.

Common Name or Meaning – Greek for "living on a tree"

Generally, you would point scale using the dendrobium point scale for progeny of Phalaenanth Section (such as Den. bigibbum) while most other Dendrobiums would use the General scale.

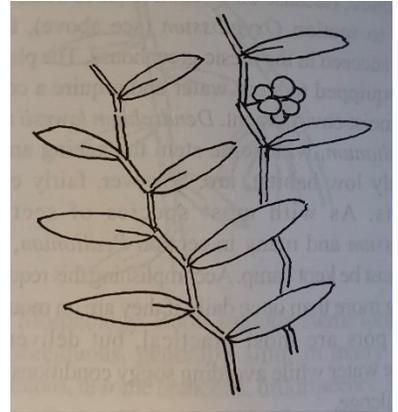
Dendrobiums are divided into the following 42 sections (NOTE the section data is from [www.orchidpieces.com](http://www.orchidpieces.com), sections identified by Lavarack and Wood included for completeness. [www.orchidpieces.com](http://www.orchidpieces.com) list sections Lichenastrum and Rhizobium as being transfer into Genus Dockrillia but Kew still has them as Dendrobiums, I have left them in as Dendrobium). The following section table includes Section name, if moved – to section or genus, Section creation reference, type species and photo, number of species in section, Geographic distribution of section, brief key description and folia/growth habit line drawing of section species:

SECTION *Amblyanthus* Schlechter 1905 – *Dendrobium melanostictum*

10 Species, New Guinea



Characterized by the tall, leafy, evenly swollen stem with a generally single, terminal on a leafy stem, tight, many flowered inflorescence enveloped by distinctive imbricate bracts. The outer surface of the flowers, the stems and in some cases the leaves are covered with a brown furfuraceous covering. The flowers do not open well and they are often yellow on the exterior and mostly white inside, and there is a more or less ovate, fleshy lip without much if any sidelobes, a shelf like retrose lamina on the lip with a saclike mentum opposite the cavity on the column



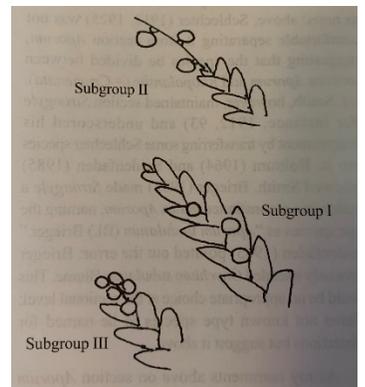
foot and in most cases the lip is papillose. Bloom time: varialbe. Flower duration: up to two weeks.

SECTION *Aporum* Lindley 1850 – *Dendrobium lobatum*

80 Species, Southeast Asia to New Guinea



Characterized by the initially erect then pendulous, short to moderately long, leafy stems carrying close spaced to overlapping based, laterally flattened, usually acute tipped leaves that blooms with usually lateral with a single flower from a cluster of chaffy bracts or from along an elongate terminal leafless extension with short lived, small flowers. Bloom time: various. Flower duration: up to one month.



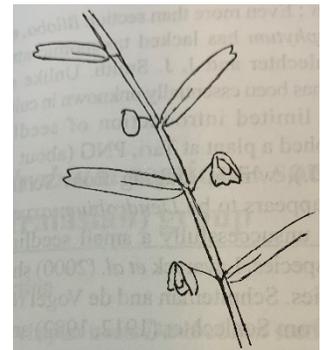
SECTION *Australorchis* now SECTION *Monophyllaea* Bentham 1873

SECTION *Biloba* J J Smith 1905 – *Dendrobium bilobum*

18 Species, New Guinea – Indonesia – Australia - Oceania



Characterized by the long and very slender stems often forming large clumps with thick roots carrying 2 ranked, prominently sheathed leaves held all along the stem that blooms on an axillary inflorescence carrying small cup shaped single flowers with distinctly 3 lobed lip. Apex of lip thickened in many species. Bloom time: year round. Flower duration: several days.



SECTION *Bolbodium* Lindley 1850 – *Dendrobium pachyphyllum*

6 Species, Borneo – Southeast Asia – New Guinea – Indonesia



Characterized by the short stems with a single internode carrying 2 subterminal, coriaceous, rounded leaves and giving rise to 2 pseudo terminal flowers. Bloom time: various. Flower duration: one day.

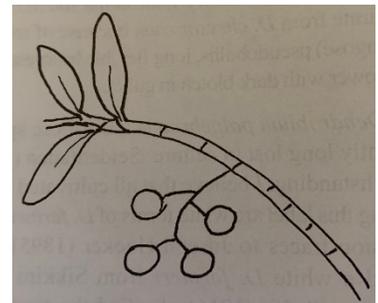


SECTION *Breviflores* Hkr.f. 1890 – *Dendrobium bicameratum*

11 Species, India – Southeast Asia



Characterized by the mostly slender stems that are swollen and pseudobulbous toward the apex and leaves along most of the stem and carrying deciduous in 2 to 3 years leaves that blooms on short, 3 to 10 flowered inflorescence carrying rather small, pink to yellow colored flowers with the base of the lip [the mentum] saccate and apically trilobed and usually hairy along the edges. Bloom time: Spring. Flower



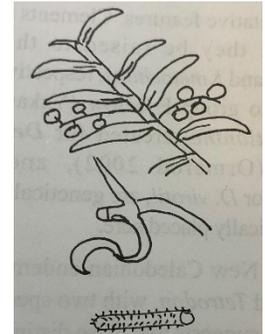
duration: about 2 weeks

SECTION *Brevisaccata* Kraenzl. 1910 – *Dendrobium agrostophyllum*

6 Species, New Guinea – Australia - Oceania



Characterized by the upright, linear to obclavate, leafy all along, growing for up to 3 years, to 3' 4" [1 meter] or more long stems that blooms on several, terminal, short, multiflowered inflorescence carrying rather small flowers with a unique, hinged, spatulate lip structure, a saccate mentum that is ribbed by the arching column foot which gives rise to the sepals and a median keel that projects backward as a retrorse internal spur.

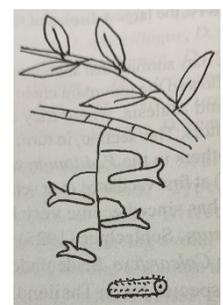


Bloom time: various centered in Spring. Flower duration: about two weeks.

SECTION *Calcarifera* J J Sm. 1908 – *Dendrobium pedicellatum* 93 Species, India – Southeast Asia – Indonesia - Philippines



Characterized by the verrucose roots, slim to fusiform, leafy, semideciduous, often pendulous, often growing more than one per year stems that bloom on numerous, short, lateral, pendent racemes on newer and older leafless stems and the pedicel is inserted at a right angle to the mentum. This final item of morphology is probably the best distinguishing feature between the section *Pedilonum* and *Calcarifera*. Bloom time: summer and fall. Flower duration: one to four weeks.



SECTION Callista now SECTION Densiflora Finet 1903

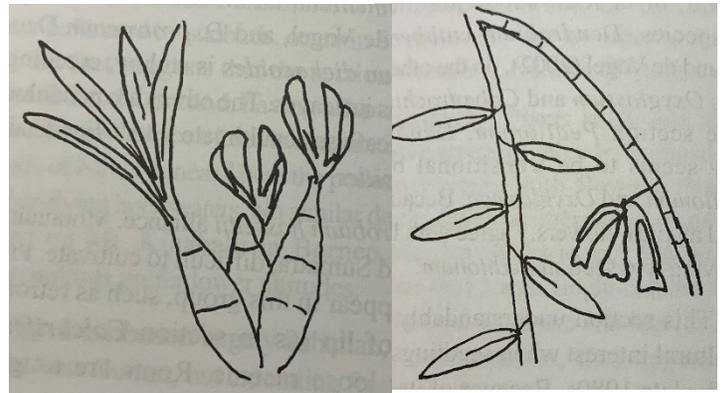
SECTION Calypstrochilus Schlechter 1905 – *Dendrobium lawesii*

59 Species, New Guinea – Australia – Southeast Asia



Characterized by the long, leafy, slender, usually pendulous stems carrying deciduous within a year or 2, two ranked flowers along the stem on lateral inflorescence, arising on leafless stems and carrying flowers that have the apex of the lip infolded to make it boat shaped and fringed.

Bloom time: all year. Flower duration: exceptional, up to eleven months. Potential for two subgroups.



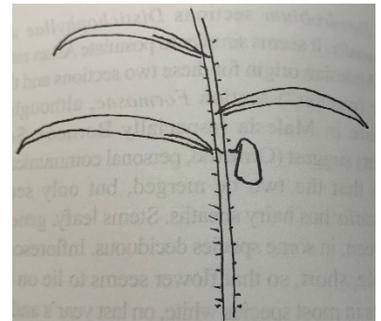
SECTION Cannaeorchis now SECTION Macrocladium Schlechter 1906

SECTION Conostalix Kraenzl. 1910 – *Dendrobium lobbii*

10 Species, Borneo – Southeast Asia – Indonesia - Philippines



Characterized by the thin stems and leaves with hairy sheaths, branching stems and the smaller flowers are often non-resupinate. Bloom time: tends to be summer and fall. Flower duration: several weekw.



SECTION Crumenata Pfitzer 1889 – *Dendrobium crumenatum*

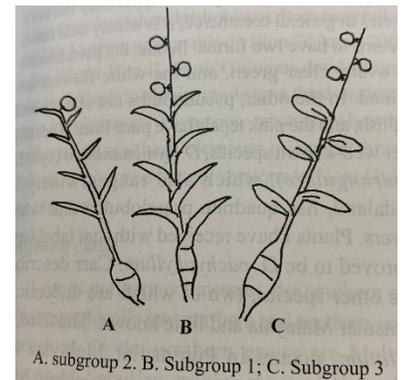
72 Species, Borneo – Southeast Asia – New Guinea – Indonesia



Characterized by the long, slender basally swollen stems carrying fleshy overlapping leaves that blooms with usually single flowers on the apical elongate leafless stem and carrying short lived flowers that are brought on by a temperature drop.

This large section can be further sub-divided into subgroups: Subgroup A – Leaves laterally flattened; Subgroup B – Leaves terete; Subgroup C – Leaves conduplicate (folded once down the middle before opening); Subgroup D – Leaves canaliculate (terete and groved).

Bloom time: various. Flower duration: one day, rarely two.



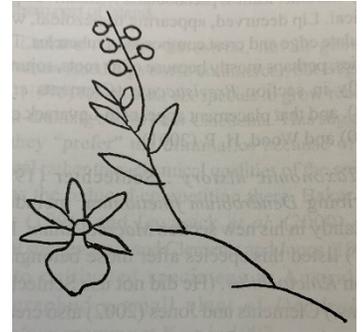
SECTION *Cuthbertsonia* now SECTION *Calyptrochilus* Schlechter 1905

SECTION *Dendrobates* [Clem & Jones] H P Wood 2006 – *Dendrobium virotii*

1 Species, New Caledonia



Characterized by the apparently smooth roots arising from a series of keiki-like stems, climbing vine like, each stem about 14" long, the newest leafy and can attain a height of 2 meters. The inflorescence is erect and carries up to 25 well spaced flowers which have a small decurved mentum, a cordate lip with small 4 pointed side lobes and a deflexed midlobe with a minimal crest. Bloom time: late Spring. Flower duration: no information available.

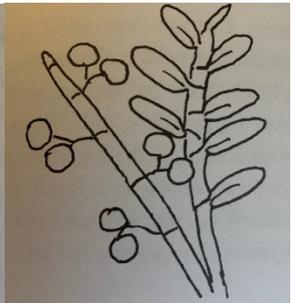
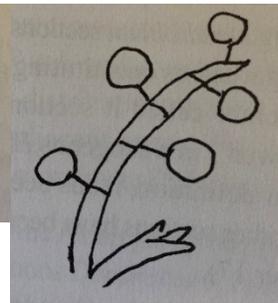
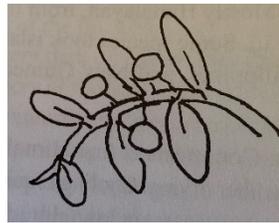


SECTION *Dendrobium* Lindley 1844 – *Dendrobium moniliforme*

57 Species, India - Southeast Asia - Australia



Characterized by the stems of moderate length that are often swollen to form clavate pseudobulbs carrying deciduous, leaf sheathed leaves that are held in the upper 2/3's of the stem, and bloom on short to long racemes, arising from the apical part, occurring in the dry season, inflorescence carrying large showy



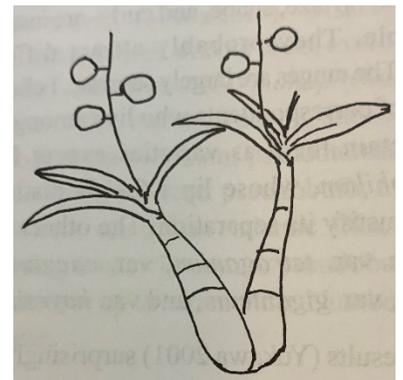
flowers with an entire tomentose (velvety) lip in most species lacking sidelobes with a short mentum. Section divided into sections dependent on blooming on current lead, last years lead, and penultimate lead. Bloom time: spring. Flower duration: about four weeks.

SECTION *Dendrocoryne* Lindley 1842 – *Dendrobium tetragonum*

10 Species, Australia – Oceania – New Guinea



Characterized by the several noded pseudobulbs carrying 2 to 6 leaves at or near the apex and they have no leaf sheathing bases. The inflorescence are subapical, racemose and have a distinct peduncle and rarely have one or 2 less fleshy flowers and mostly have many. The lips are trilobed and have more or less erect sidelobes that are attached to the column foot apex. The disc and the keels of the lip are not close to the column as the lip is not strongly hinged. The disc has one to 3 lower keels. Bloom time: early Spring. Flower duration: one to two weeks.

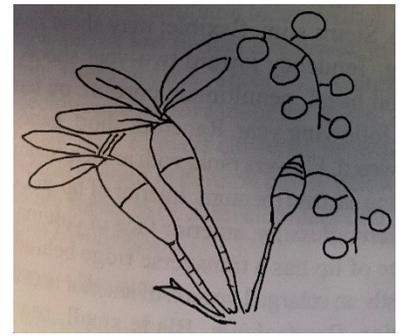


SECTION Densiflora Finet 1903 – *Dendrobium densiflorum*

14 Species, India – China - Southeast Asia



Characterized by the often shortened, fusiform to clavate stems carrying a few terminal leaves that blooms on a single, terminal, usually pendulous, multiflowered inflorescence on new and older stems carrying usually yellow, sometimes pink flowers. Bloom time: Spring. Flower duration: about one week.



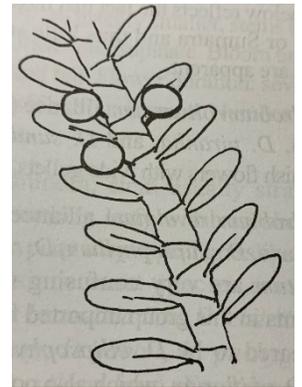
SECTION Dichopus NOW Genus Grastidium

SECTION Distichophyllae Hkr.f. 1890 – *Dendrobium revolutum*

34 Species, Borneo – Southeast Asia - Indonesia



Characterized by the stiff stems, rigid straight leaves multiple few flowered inflorescence on leafy stems and carrying white single to multiply few flowers held close to the stem. Bloom time: summer and fall. Flower duration: more than two weeks.

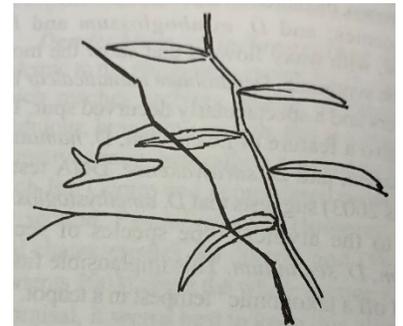


SECTION Dolichocentrum Schlechter 1911 – *Dendrobium furcatum*

5 Species, Philippines – Sulawesi



Characterized by the smooth heavy roots, unswollen straight stems sometimes branched, slim, lanceolate leaves, large single flowers a peculiar column with an elongate foot and stelidia that overtop the anther. Bloom time: Fall and Winter. Flower duration: about one week.



SECTION Eleutheroglossum Schlechter 1906 – *Dendrobium closterium*

4 Species, New Caledonia – Australia



Characterized by the compact, several noded pseudobulbs carrying leaves with short sheaths and blooms on a subterminal inflorescence carrying flowers with erect lateral sepals and a forked lip. Bloom time: later Spring and summer. Flower duration: one week or more.

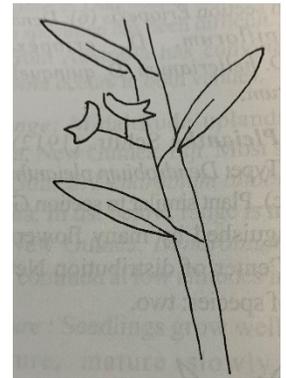


SECTION Eriopexis Schlechter 1912 – *Dendrobium eriopexis*



Characterized by the plants similar to Section Grastidium and the flattened sheaths covering the stem the long curved column foot and the variably hairy crest. NOTE: Photo is of *Den. hellerianum*, only photo available of any species in section. Bloom time: Year round. Flower duration: one or two days.

5 Species, New Guinea



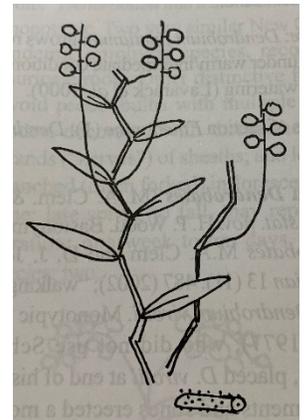
SECTION Euphlebiium now SECTION Fugacia J J Sm. 1905

SECTION Finetianthe Ormerod 2002 – *Dendrobium finetianum*



Characterized by the elaborate lip with a pubescent hypochile and a pubescent front surface of the column. Bloom time: various. Flower duration: no information available.

1 Species, New Caledonia

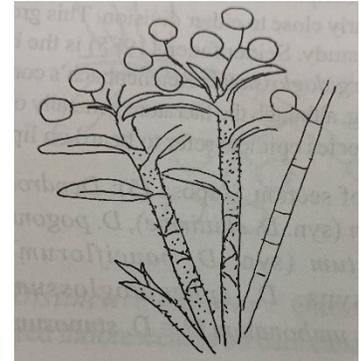


SECTION Formosae [Benth & Hkr.f.] Hkr.f. 1890 – *Dendrobium formosum*



Characterized by the unusually long, robust pseudobulbs carrying leaves all along the length with leaf sheaths that are covered in black hairs and last for several years and have 1 to 3 flowers in a group in the upper part of the stem that are large, showy, waxy, thin, long lasting usually with white predominate flowers that have a 3 lobed lip apex. Bloom time: Spring. Flower duration: generally more than a month.

52 Species, East Asia and Islands

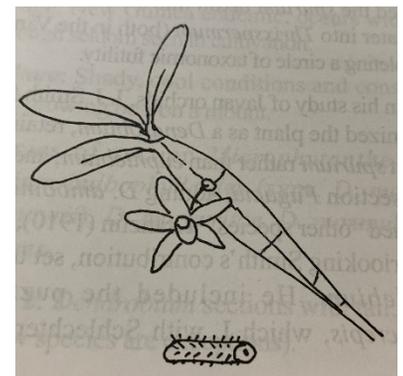


SECTION Fugacia J J Sm. 1905 – *Dendrobium spurium*

12 Species, New Guinea – Philippines - Borneo



Characterized by the club shaped, angled, sometimes square in crosssection pseudobulbs carrying a few, usually 2 apical leaves that blooms with flowers that only last one day and are borne at the apex or in lateral short inflorescence. Bloom time: various. Flower duration: one day or less.

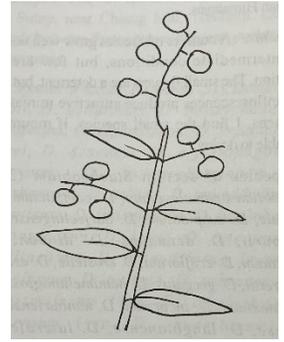


SECTION Fytchianthe Schlechter 1912 – *Dendrobium barbatulum*

4 Species, India – Myanmar - Malaysia



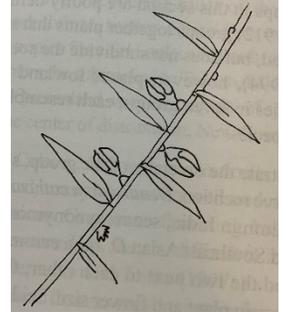
Characterized by the slim leafy stem carrying usually an apparently terminal raceme on the newest mature pseudobulb and a large flower with wide petals and lip. Bloom time: Fall (one species). Flower duration: several weeks.



SECTION Grastidium [Bl.] J.J.Sm 1905 – *Dendrobium salaccense* 132 Species, East Asia – Australia – New Guinea - Oceania



Characterized by the long slender stems with basally sheathed leaves all along the length and carrying short-lived flowers produced laterally in pairs with trilobed lip with a prominent mentum. Bloom time: year round. Flower duration: less than one day.

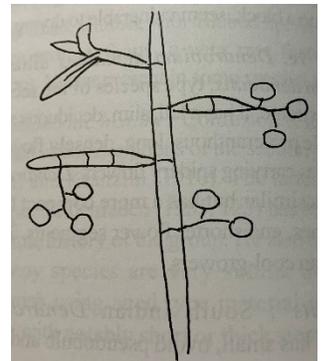


SECTION Herbacea Kraenzl. 1910 – *Dendrobium herbaceum*

3 Species, India



Characterized by the upright, fusiform, deciduous stem with multiple branches and small flowers on bare branches. Bloom time: Spring. Flowers open sequentially over a period of weeks.

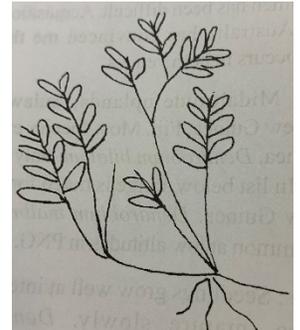


SECTION Herpethophytum Schlechter 1912 – *Dendrobium herpethophytum*

11 Species, New Guinea



Characterized by the similarity to Section Monanthos but with a creeping habit, stems sometimes branched, a different flower structure, gregarious blooming and endemic to New Guinea. Bloom time: year round. Flower duration: one day.

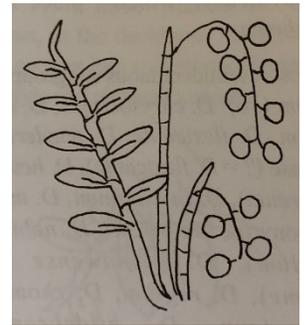


SECTION *Holochrysa* Lindley 1859 – *Dendrobium moschatum*

15 Species, India – China - Southeast Asia



Characterized by the tall semideciduous stems with subterminal inflorescence arising on leafless stems and carrying several mostly yellow flowers often with dark bullseye markings. Bloom time: Spring. Flower duration: about ten days.



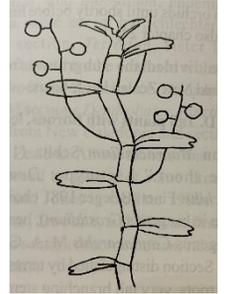
SECTION *Inobulbum* now GENUS *Inobulbum*

SECTION *Kinetochilus* Schlechter 1907 – *Dendrobium pectinatum*



Characterized by the large plants with smooth roots and unbranching leafy stems and carrying flowers with a mobile spatulate lip. Bloom time: year round. Flower duration: no information available.

3 Species, New Caledonia

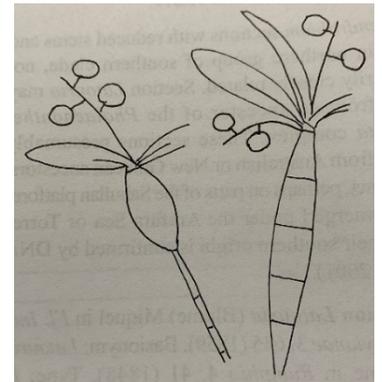


SECTION *Latouria* [Bl.] Miq 1859 – *Dendrobium spectabile* 52 Species, New Guinea (mostly) - Oceania



Characterized by the close set, variably club shaped, some being stout and others elongate and slender stems carrying towards the apex of the stem leaves that do not have sheathing bases and blooms on a near terminal, few flowered inflorescence carrying fleshy flowers that have a prominent three lobed lip with a prominently raised callus. This diverse section can be divided into the following alliances: 1)

*Dendrobium macrophyllum* alliance; 2) *Dendrobium spectabile* alliance; 3) *Dendrobium johnsoniae* alliance; 4) *Dendrobium terrestre* alliance; 5) *Dendrobium simplex* alliance; 6) *Dendrobium punamense* alliance; 7) *Dendrobium bifalce*; 8) *Dendrobium aberrans* alliance. Bloom time: Spring and fall. Flower duration: up to 3 months.



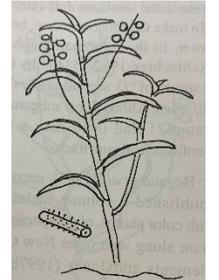
SECTION *Lichenastrum* now in SECTION *Rhizobium*

SECTION *Macrocladium* Schlechter 1906 – *Dendrobium sarcochilus*



Characterized by the terrestrial habit, rough roots, very tall branching stems and carrying flowers with a ridged blade and a fixed lip. Bloom time: various. Flower duration: several weeks.

6 Species, New Caledonia

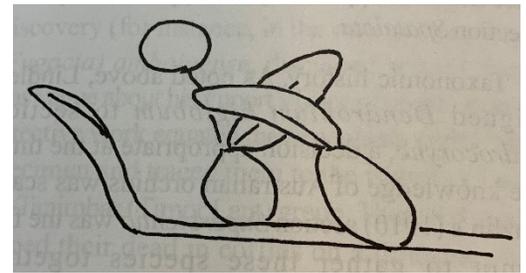


SECTION Microphytanthe Schlechter 1912 – *Dendrobium bulbophylloides*

2 Species, New Guinea



Characterized as a tiny plant with creeping single noded, ovoid stems carrying a single, apical, leaf giving rise to a terminal inflorescence carrying yellow brown or dark violet with yellow tips flowers. Bloom time: Summer. Flower duration: around three weeks.



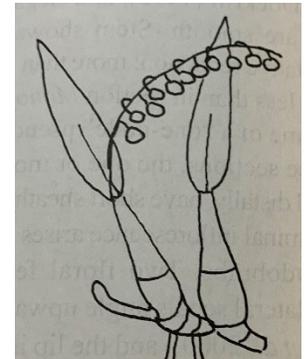
SECTION Monathos now SECTION Biloba J J Smith 1905

SECTION Monophyllaea Bentham 1873 – *Dendrobium monophyllum*

3 Species, Australia



Characterized by the smooth roots, ovoid, 1 to 2 noded, swollen pseudobulbs carrying 12 or 2, terminal, long, thin, slim leaves that blooms on a nodding to pendulous, pseudoterminal inflorescence arising on the newest mature pseudobulb and carrying compact flowers. They are also endemic to Australia. Bloom time: late Spring. Flower duration: up to two months.



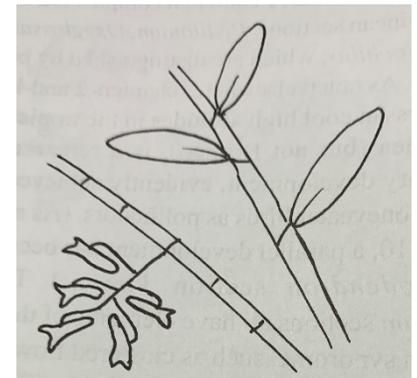
SECTION Oxyglossum now SECTION Calypstrochilus Schlechter 1905

SECTION Oxystophyllum [Bl] Miq 1859 – Now Genus Oxystophyllum

SECTION Pedilonum Blume 1825 – *Dendrobium secundum* 45 Species, New Guinea – Southeast Asia – Indonesia – Philippines



Characterized by the small to medium sized epiphytes or occasional lithophytes with fleshy, usually pseudobulbous, carrying 2 ranked, deciduous in one to 2 year leaves held all along the stem and carrying elongate, brightly colored flowers with a long mentum or chin held close to the pedicel and ovary and the lip is relatively narrow and narrows gradually at the base. Bloom time: variable among species. Flower duration: may stay in bloom six months.

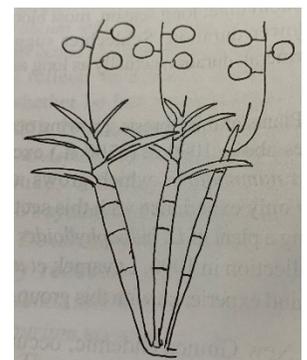


SECTION Phalaenanthe Schlechter 1912 – *Dendrobium bigibbum*

7 Species, New Guinea - Australia



Characterized by the short to long or compact stems carrying leaves towards the apex that blooms on long, arching inflorescence carrying large, showy, wide opening, long lasting, purple, pink or white flowers with petals and sepals that are larger than the lip. The mentum usually has 2 chins. Bloom time: late Summer and Fall. Flower duration: average two months, can be as long as five months.



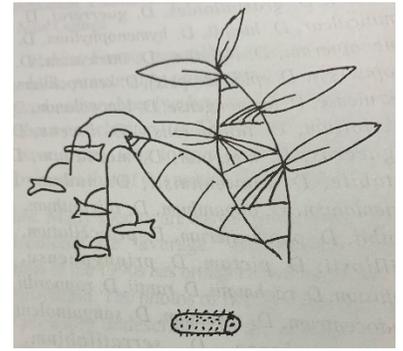
SECTION *Platycaulon* Schlechter 1905 – *Dendrobium lamellatum*

10 Species, Borneo – Southeast Asia – Indonesia -

Philippines



Characterized by the verrucose roots, ovoid, flattened but leafy pseudobulbs a geotropic inflorescence carrying whitish flowers with elaborate keels on the lip. Bloom time: Fall-Spring. Flower duration: a week or less.

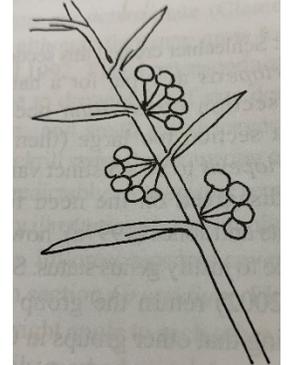


SECTION *Pleianthe* Schlechter 1912 – *Dendrobium pleianthum*

1 Species, New Guinea



Characterized by the plant similar to Section *Grastidium* but has many flowers on a short inflorescence. Bloom time: Summer. Flower duration: several days.

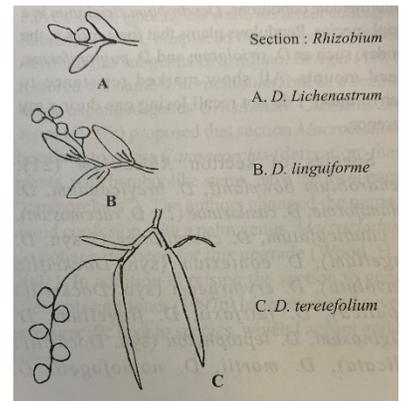


SECTION *Rhizobium*, Lindley 1850 – *Dendrobium linguiforme*

23 Species, Australia



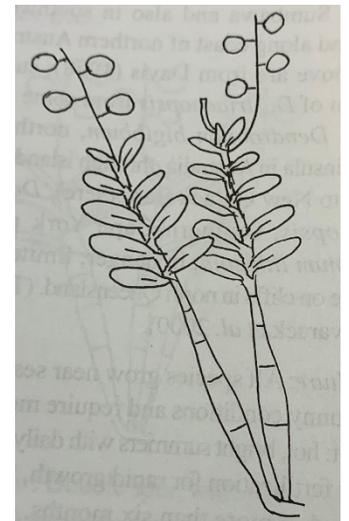
The unique feature of this section is that the rhizome and the shoot are not differentiated. Thus, the plant, like a *Masdevallia*, appears to have no definite stem. The sections is divided into three Alliances: *Den. lichenastrum* Alliance, *Den. linguiforme* Alliance, and *Den. teretefolium* Alliance. This section was once identified as the GENUS *Dockrillia*.



SECTION *Spatulata* Lindley 1843 – *Dendrobium antennatum* 50 Species, New Guinea – Indonesia – Australia - Philippines



Characterized by the long pseudobulbs carrying all along the stem, 2 ranked leaves that blooms on 1 to more, long, multiflowered inflorescence arising from the apical nodes of the stem carrying wide open, long lasting flowers with mostly twisted petals and sepals, tri-lobed lip with 3 or more keels along the midlobe and a prominent mentum. This section is further divided into five alliances: 1) *Dendrobium antennatum* alliance; 2) *Dendrobium canaliculatum* alliance; 3) *Dendrobium taurinum* alliance; 4) *Dendrobium lineale* alliance; 5) *Dendrobium cochliodes* alliance. Bloom time: generally Spring. Flower duration: up to three months.

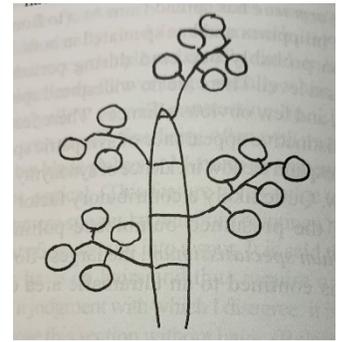


SECTION Stachyobium Lindley 1844 – *Dendrobium denudans*

35 Species, India – Southeast Asia - China



Characterized by the multi-flowered inflorescence on this years mature, leafy stem and carrying flowers with a trilobed lip. Bloom time: often Fall. Flower duration: up to one month.

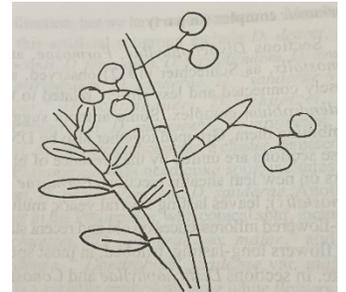


SECTION Stuposa Kraenzl. 1910 – *Dendrobium stuposum*

5 Species, India – Southeast Asia - China



Characterized by the tall, more or less pendulous stems that are slightly swollen, that blooms on a few, short, terminal, on leafless stems carrying relatively small flowers with a 3 lobed lip and hairy margins. Bloom time: Spring. Flower duration: about one week.

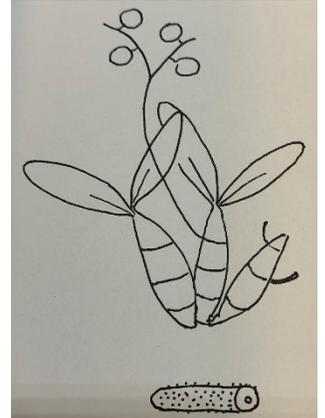


SECTION Tetrodon [Kraenzl] Ormerod 2002 – *Dendrobium oppositifolium*

1 Species, New Caledonia



Characterized by fusiform, smooth, multi-internode pseudobulbs; sheathless leaves; and long, lateral inflorescences. Bloom time: Summer to autumn. Flower duration: no information available.



SECTION Winkia [Clem & Jones & Molloy] H P Wood 2006 – *Dendrobium cunninghamii*

1 Species, New Zealand



Characterized by being in New Zealand usually as an epiphyte but sometimes as a lithophyte with a bushy habit, ribbon-like leaves and several few flowered inflorescence. Bloom time: Summer. Flower duration: no information available.



**NOTE:** The number of species per group is from [www.orchidspecies.com](http://www.orchidspecies.com) and the sum of all these species is 1009 species. In the summary on [www.orchidspecies.com](http://www.orchidspecies.com) it is stated that there are over 1200 Dendrobium species.

The total of species listed in OrchidWiz X6.2 update March 2020 is 1688 Species. This includes 55 natural hybrids resulting in 1633 Species in OrchidWiz. I am aware from prior research that the OrchidWiz listing includes synonyms and this has been confirm for a few of the dendrobium species listed in OrchidWiz.

Kew has the definitive list of accepted and up to date dendrobium species, but it is NOT easy to sort out the accepted names from the synonyms.

With these comments I am NOT confident that the list of number of species per section above is correct, but it is the best that I have access to at this time.

### Table of species, top 12 progeny and 10 awards (OrchidWiz – Mar 2020 update)

Kew Name	Section	Temperature	Season	Progeny	AOS Awards										
				F1/Total	FCC	AM	HCC	JC	AD	AQ	CCE	CCM	CHM	CBR	Total
Dendrobium anosmum	Dendrobium	Warm to Hot	Spring	47/79	2	5	1	4			1	23		1	37
Dendrobium bigibbum*	Phalaenantha	Warm to Hot	Fall	633/7850		17	16	2				10			45
Dendrobium canaliculatum	Spatulata	Warm to Hot	Spring	214/623		2	3					5		1	11
Dendrobium chrysotoxum	Densiflora	Cool to Warm	Spring	35/44		11	8					18			37
Dendrobium cuthbertsonii	Calyptrochilus	Cold	Yearround	14/19	2	49	25	6			4	23	2		111
Dendrobium discolor	Spatulata	Warm to Hot	Yearround	150/3674		3	2				1	5			11
Dendrobium gouldii	Spatulata	Hot	Spring-Summer	175/3260		2	2	1			1	4	1		11
Dendrobium kingianum	Dendrocoryne	Cool to Warm	Winter-Spring	122/1329	3	20	11	3			3	17	3	1	61
Dendrobium lasianthera	Spatulata	Warm to Hot	Yearround	225/974		9	4						1		14
Dendrobium lindleyi	Densiflora	Cool to Warm	Spring	7/10		10	7				4	28			49
Dendrobium lineale	Spatulata	Warm to Hot	Yearround	134/2905			1				3	6		1	11
Dendrobium nobile	Dendrobium	Cool to Warm	Winter-Spring	99/2603		2	2				3	30	1	1	39
Dendrobium schulleri	Spatulata	Hot	Spring	111/2845		2						1			3
Dendrobium speciosum	Dendrocoryne	Cool to Warm	Winter-Spring	255/1154		5	7	1			2	12	1		28
Dendrobium spectabile	Latouria	Warm to Hot	Winter-Spring	24/25		14	4	1			2	11	2	1	11
Dendrobium stratiotes	Spatulata	Hot	Spring-Summer	139/3883		7	3							1	11
Dendrobium taurinum	Spatulata	Hot	Spring-Fall	151/5157											0
Dendrobium tetragonum	Dendrocoryne	Cool to Warm	Winter-Spring	70/1352		3	5	1					7	1	17
Dendrobium victoriae-reginae	Calcarifera	Cool to Warm	Spring-Summer	25/49	1	12	9	2			3	5		1	33

Key: Cold – 50 to 58F at night; Cold to cool – 50 to 66F at night; Cool – 58 to 66F at night; Cool to warm – 58 to 75F at night; Cool to Hot – 58 to 85F at night; Warm – 66 to 75F at night; Warm to Hot – 66 to 85F at night; Hot – 75 to 85F at night

There has been one intergeneric cross. It was made between the genus Dendrobium and Bulbophyllum in 2006. There are no photos, awards, or additional breeding made with the cross.

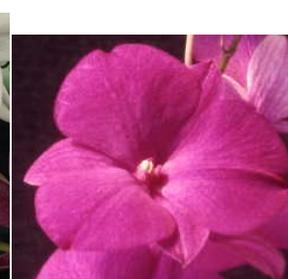
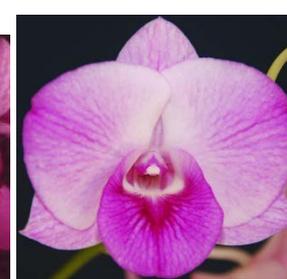
Within the Dendrobium family there tends to breeding in families with various amount of breed outside of the families. The families, the degree of breeding outside the section is discussed, and rough number of progeny is provided:

Section Phalaenantha (referred to in this report as the Bigibbum Family) – Dominated by Den. bigibbum (aka. Den phalaenopsis), 633 F1 and 7850 total progeny. The second most used species is Den. affine with 77 F1 and 772 total progeny. Looking at the first 17 unique primary F1 progeny (associated F1 progeny from 146 to 6) the most crosses were made with the Spatulata Family (14 crosses) followed by Dendrocoryne (2 crosses) and a single cross with the Latouria Families. There are probably over 8,500 associated with the Bigibbum species. Select hybrids:

Den. bigibbum Family:

				
Den. May Neal 'Taino' AM/AOS Feb 1976, NS 7.5 cm	Den. Jaquelyn Thomas 'Orquivalle' JC/AOS Nov 2016, NS 7.0 x 4.5 cm	Den. Hickam Deb 'Nancy' AM/AOS Oct 1984, NS 8.2 cm	Den. Eboni Purple 'Splash' AM/AOS Oct 2018, NS 5.9 x 6.0 cm	Den. Hawaii Strpes 'Nora' FCC/AOS Jan 2016, NS 9.0 x 7.0 cm

Den. affine Family (not included pictured in Bigibbum Family above):

				
Den. Baby Pink	Den. Chao Praya Gem	Den. Kuranda Classic 'Joyce Suzuki' AM/AOS Oct 1997, NS 8.0 x 7.5 cm	Den. Tanamera Beauty 'Hallie' AM/AOC May 2014, NS 8.3x7.6 cm	Den. Alick Dockrill 'Samantha Joy' AM/AOC Apr 2000, NS 6.5 x 7.8 cm

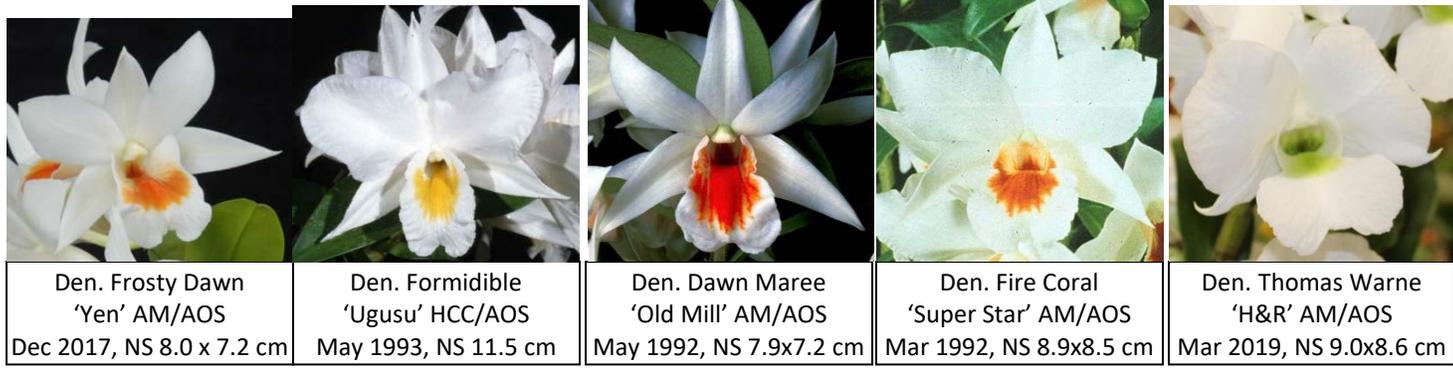
Section Spatulata – The Bigibbum Family may be the Family with the species with the most progeny, but the Spatulata Family has 7 of the top 10 Dendrobium species with the most F1 progeny and I suspect the most intersectional crosses. Most of the intersectional crosses (~100 crosses, top 6 Spatulata species with two or more progeny) have been with the Bigibbum Family. Three crosses were identified with other Sections, 2 crosses made with the Densiflora Section and one with Latouria Section. See table above for information on the top 8 species. Select hybrids (pictures not included in Phalaenanthe Section above):

				
Den. Black Spider	Den. Touch of Gold 'Fco Valentina' AM/AOS Jul 2019, NS 4.2 x 3.3 cm	Den. Caesar 'Pink' AM/AOS Sep 2011, NS 7.3 x 7.5 cm	Den. Cherub 'Kay' AM/AOC Jan 2008, NS 3.7 x 4.2 cm	Den. Samarai 'Caribe' HCC/AOS Dec 2010, NS 3.5 x 7.1 cm

Section Densiflora – Consist of 14 species, 9 have been used in crosses. Den. chrysotoxum has the most progeny (both F1 and total) with 45 total progeny, Den. farmeri and Den. thysiflorum are second with 19 total progeny, the remaining species have 10 or less total progeny. Very little breeding has been done with this VERY showy dominate yellow flower section. Five to six crosses have been made with the following section: Bigibbum family, Nobile Family, and Holochrysa section. The other six sections have three or less crosses. Select hybrids:



Section Formosae – There has been significant breeding (~ 58 intra-sectional crosses and over 400 total progeny) within the section, but little breeding outside of this section (~ 20 crosses between 10 sections 3 section with three crosses). I suspect the lack of inter-sectional breeding is due to either lack of interest, success, or results are not in (recent crosses). The top 4 breeding species are (in order of total progeny, format Den. Name (F1 / Total progeny)): Den. formosum (46/124), Den. cruentum (36/88), Den. infundibulum (18/46), Den. sanderae (13/36). The crosses tend to be shades of white with a colored lip, select hybrids:



Nobile, Section Dendrobium – The Section Dendrobium is dominated by Nobile Family breeding. The breeding has been primarily within the section. I have found inter-sectional breeding with 8 other sections for a total of 37 crosses. The primary inter-sectional breeding has been with the sections Densiflora (more flowers per inflorescences, color, and warmer growing conditios ??) and Breviflores (miniature nobile types ??). Was not able to find any inter-sectional breeding information. Select hybrids of the non-nobile hybrids in the Dendrobium section:



The Nobile Family is dominated by 8 species (in order of total progeny, format Den. Name (F1 / Total progeny)): Den. nobile (99/2609), Den. heterocarpum (33/2531), Den. signatum (25/2419), Den. findlayanum (20/2277), Den. moniliforme (83/2061), Den. regium (12/1901), Den. linawianum (16/1790), Den. pendulum (5/1754). An interesting observation is that in the past five years Den. nobile type Dendrobiums have averaged around 3 to 4 AOS awards per year. Select hybrids:



Den. Pink Doll  
'Magic' AM/AOC  
Sep 1998, NS 8.3 x 7.0 cm



Den. Yukidaruma  
'King' AM/CCE/AOS  
Mar 1977, NS 7.0x6.3 cm



Den. Star Sapphire  
'KOS' AM/AOS  
Feb 2001, NS 8.5 x 7.5 cm



Den. Cloud's Snow Bunny  
'Memoria Eileen Rickman'  
AM/AOS  
Mar 2016, NS 7.3x5.8 cm



Den. Maui Sunshine  
'Jack's Sweetheart'  
AM/AOS  
Mar 2012, NS 4.6x4.2 cm

Latouria – Flowers in the Latouria section are known for flower life, in most cases 3 to 4 months, and this trait is passed on to its progeny. Of the 52 species in the group, 29 have progeny with the top 4 species in regards to total progeny being (in order of total progeny, format Den. Name (F1 / Total progeny)): Den. bifalce (18/359) the key species in the introduction of striped Dendrobiums, Den. atrovioleaceum (47/267) which includes the 'miniature' version Den. normanbyense, Den. macrophyllum (41/228), Den. convolutum (27/91), Den. johnsoniae (33/84). Beside Den. bifalce there has been significant intersectional breeding with the Latouria section and three other sections: Spatulata Section with 32 Primary crosses, Bigibbum Family 17 primary crosses, and Dendrocoryne Section with 8 primary crosses. Select hybrids:



Den. Roy Tokunaga  
'Majestic' AM/AOS  
May 2019, NS 9.3 x 5.7 cm



Den. New Guinea  
'Miwa' CCM/AOS  
Mar 1992, NS 9.0x4.0 cm



Den. Hawaii Stripes  
'Nora' FCC/AOS  
Jan 2016, NS 9.0x7.0 cm



Den. Gerald McCraith  
'Broadway' AM/OCNZ  
Jan 2016, NS 5.5x6.0 cm



Den. Violet Yamaji  
'Puanani' AM/AOS  
Mar 2018, NS 7.5x7.0 cm

Australian Dendrobiums, which consist of two section, have a relatively small but quickly expanding following. Besides two fact that both have a center of distribution in Australia, the plants tend to be very floriferous bloomers making them ideal specimen plants. Some of the differences between the two sections is plant habitat (Dendrocoryne upright ovoidal pseudobulbs; Rhizobium pendulous stems) and floral shape (although some Rhizobium species flowers do have a floral structure similar to Dendrocoryne). From a breeding point of view, the Dendrocoryne Section has the most progeny (~2000-3000 grexes) and has been crossed with 12 other sections, while the Rhizobium Section has around 300 to 400 grexes and intersectional breeding has only been with Dendrocoryne Section.

Dendrocoryne Section  
– Consist of 14  
species and at  
least 3 natural



Den. Australian Artist  
'Ellie Louise' HCC/AOC  
Sep 2015, NS 3.0x3.0 cm



Den. Avril's Gold  
'Mitchell' AM/AOC  
Aug 2013, NS 5.3 x 7.4 cm



Den. Kayla  
'Mem. Roy Fox' AM/AOS  
Mar 2019, NS 5.0x6.0 cm



Den. Hilda Poxon  
'Diamond Orchids' AM/AOS  
Mar 1992, NS 9.0x4.0 cm

hybrids, the top 4 species in regards to total progeny being (in order of total progeny, format Den. Name (F1 / Total progeny)): Den. tetragonum (70/1406), Den. kingianum (122/1371), Den. speciosum (260/1206), Den. fleckeri (26/1031). Select hybrids (right and above):

Den. Bardo Rose  
'Gary Edwin' AM/AOS  
Apr 2006, NS 3.3 x 3.0 cm



Rhizobium Section – Consist of 25 species and at least one natural hybrid, the top 4 species in regards to total progeny being (in order of total progeny, format Den. Name (F1 / Total progeny)): Den. fuliginosum (33/173), Den. striolatum (24/128), Den. teretifolium (50/113).



Den. Tweetas  
'Red Lips' AM/AOC  
Jul 2010, NS 4.0 x 2.6 cm



Den. Grey Ghost  
'Wamberal' AM/AOS  
Feb 2009, NS 4.1 x 3.1 cm



Den. Oliver Jack  
'Gerard' FCC/AOC  
Oct 2015, NS 3.6 x 2.8 cm



Den. Hot Coals  
'Cheryl' HCC/AOC  
Aug 2012, NS 3.4 x 2.8 cm



Den. Australian Ginger  
'Kobie' AM/AOC  
Aug 2015, NS 4.6 x 4.0 cm

Remaining Sections / species – The remaining sections consist approximately 700 more species and hybrids. Some off the section grexs are: Den. victoriae-reginae (25/61), Den. cuthertsonii (14/19), Den. pulchellum (23/51), and Den. aduncum (3/128). Select hybrids below:



Den. Gatton Sunray  
'Jardin botanique de  
Montréal' AM/AOS  
May 2013, NS 11.1x8.2 cm



Den. Kuniko  
'Grahame' AM/AOC  
Oct 2012, NS 0.5? x 0.6? cm



Den. Jiali Mikotae  
'FY-L' AM/AOS  
Mar 2015, NS 1.8 x 1.7 cm



Den. Rainbow Dance  
'Akone' HCC/AM/AOS  
Nov 2007, NS 5.4x5.7 cm



Den. Mountain Magic  
'Mountain's Real Super'  
AM/AOC  
Jun 2001, NS 3.4 x 4.0 cm

## References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x6.2, update: March 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Wood, H. P.; *The Dendrobiums*, 2006

Kamemoto, H.; Amor, T. D.; Kuehnle, A. R.; *Breeding Dendrobium Orchids in Hawaii*, 1999

AOS Bulletin, *Review of the "Antelope" Dendrobiums*, Ossian, C. R.; Vol. 50/51, Oct-1981 to April-1982

# Dendrobium Section Phalaenanthe

## Schlechter, Die Orchid. Due. Nue Guinea (1912)

**Type: Dendrobium [Den.] bigibbum** [den-DROH-bee-um bye-JIB-bum]

This section of three species (OrchidWiz [update Jun 2020]) may be small in number but has the most used species of the genus Dendrobium. The plants are small to large epiphytic or less commonly lithophytic plants that are spread throughout tropical northwestern Australia, Papua and New Guinea, and intermediate islands at elevations below 500 m. They require excellent drainage, high humidity, bright to moderate light, and ample water while in growth and with a distinct dry season. Characterized by the short to long compact stems / canes carrying leaves towards the apex. The blooms occur on long, arching inflorescence carrying large, showy, wide opening, long lasting, purple, pink or white flowers with petals and sepals that are larger than the lip. The mentum (a chin-like projection usually out the back of the plant that consist of the column foot and the bases of the lateral sepals and lip) usually has 2 chins, S-shaped. A Phalaenanthe species table is proved below



Dendrobium bigibbum  
'Zelda Neuendorff' HCC/AOS  
Apr 2001, NS 5.8 x 4.3 cm

Common Name or Meaning – derives its name from the Greek word “phaliana” (moth) and “anthos” (flower)

Generally, you would point scale using the Dendrobium point scale.

### Table of species, (www.orchidspecies.com – Jul 2020 update)

Name	Year	Synonyms	Country	Climate	Progeny F1/Total	Awds	AOS Awards												
							FCC	AM	HCC	JC	AD	AQ	CCE	CCM	CHM	CBR	Total		
Dendrobium affine	1840		New Guinea, islands of Timor, Seram, and Tanimbar, Northern Australia	Warm to Hot	77/772	8		1	1							1	1	4	
Dendrobium bigibbum var. bigibbum	2015	Den. bigibbum, Den. sumneri, Den. phalaenopsis var. statterianum	Northern half Cape York, Australia, Islands of Torres Strait, Southern Papua New Guinea	Warm to Hot	633/7906	111		1	1									2	
Dendrobium bigibbum var. superbum	2015	Den. phalaenopsis, and varietal forms NOT mentioned above and below.	Cape York, Australia - Cooktown to Princess Charlotte Bay	Warm to Hot				16	14	1				8					39
Dendrobium bigibbum var. compactum	2015	Den. phalaenopsis var. compactum	Cape York, Australia - Just North of Cairns, Hartleys Creek	Warm to Hot						1	1				2				4
Dendrobium dicuphum	1874		Northern Australia		Now Dendrobium affine														
Dendrobium lithocola	1989		Cape York, Australia		Now Dendrobium bigibbum var. compactum														
Dendrobium striaenopsis	1989		Laret Island, Tanimbar Group, Indonesia		Now Dendrobium bigibbum var. superbum														
Dendrobium x superbiens	1876		Queensland, Australia	Warm to Hot	52/3276	5									1			1	
Dendrobium williamsianum	1878		Papua New Guinea	Hot	39/76	1											1	1	

Key: Cold – 50 to 58F at night; Cold to cool – 50 to 66F at night; Cool – 58 to 66F at night; Cool to warm – 58 to 75F at night; Cool to Hot – 58 to 85F at night; Warm – 66 to 75F at night; Warm to Hot – 66 to 85F at night; Hot – 75 to 85F at night

This section has long been in a state of confusion, centered on ‘Den. Bigibbum / Den. Phalaenopsis’ family. I believe a recent study by Peter Adams (2012) may have cleared up this confusion. A summary of his results was provided by Laura Bonnell (2018) and the comparison table below was generated from her paper, highlighted characteristics I believe are significant.

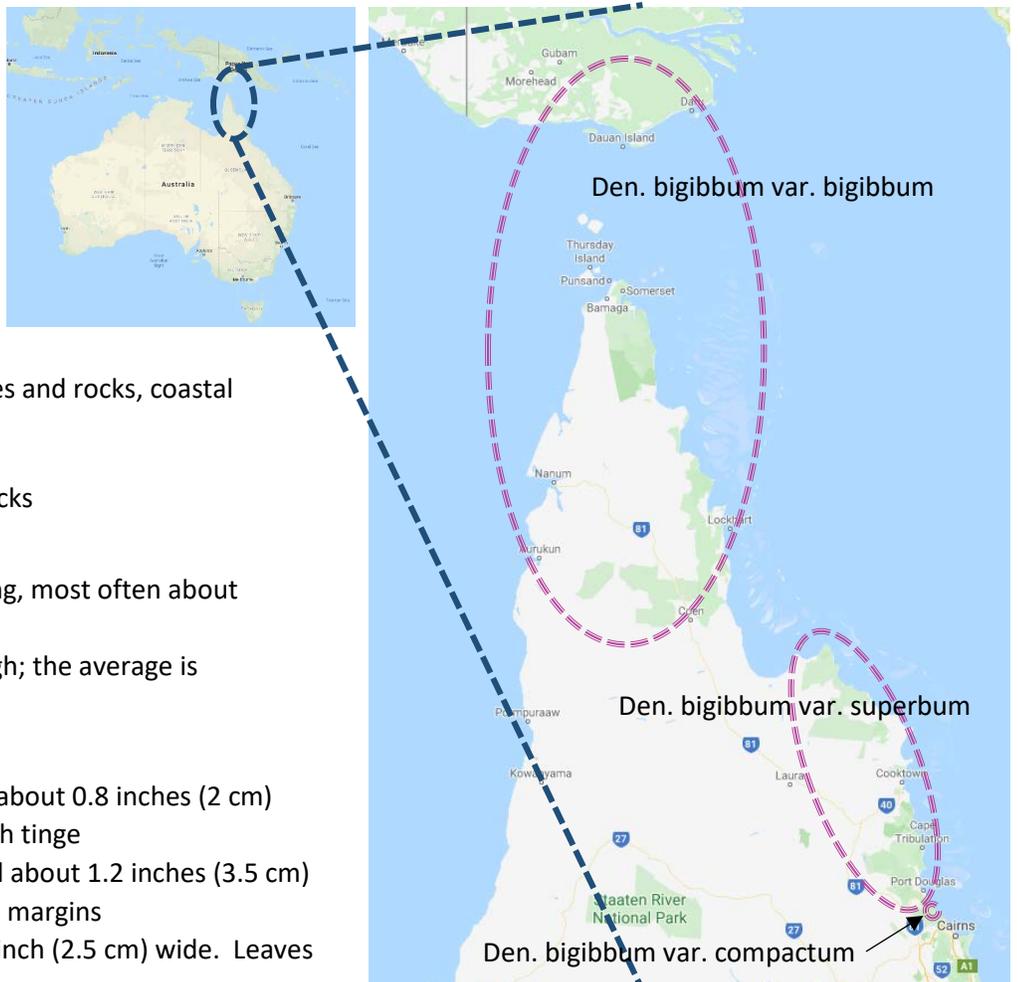
<b>Dendrobium bigibbum varieties</b>			
<b>Characteristics</b>	<b><u>bigibbum</u></b>	<b><u>superbum</u></b>	<b><u>compactum</u></b>
<b>Physical location</b>	The northern half of Cape York, north from the Archer River (Aurukun, west coast of Cape York) and the Iron Range (east coast of Cape York), the islands of Torres Strait and southern Papua New Guinea. There are also subpopulations in the west of Cape York (in the Weipa region)	On the Cape York Peninsula, from Cooktown in the east to the Font Hills west of Mount Molloy, Queensland. It also grows as far north as Princess Charlotte Bay. Rapidly recolonize disturbed sites.	On the Cape York Peninsula, the Hartley Creek area, a small area just north of Cairns, Australia
Climate conditions, elevation	Semi-arid regions, usually at low elevation from sea level to 1,300 feet (0–400 m)	Up to 1,300 feet (400 m). In areas with a hot climate and extremely seasonal rainfall.	This area gets a little more rain in the winter, but there is still a rather drier period in the winter and spring.
Climate conditions, light	moderate light		Clift face eastern side
<b>Climate conditions, habitat</b>	small trees and rocks, coastal scrub, streambank vegetation, and monsoon thickets”	Grows on trees and rocks in coastal scrub, littoral rainforest, riverine vegetation, monsoon thickets, swamps, and gullies in open forests. It also grows in vegetation near beaches	Grows almost exclusively on rocks
<b>Pseudobulbs</b>	Cylindrical pseudobulbs, up to 48 inches (120 cm) long, most often about 16–24 inches (40–60 cm). Usually about 0.4 inches (1.0 cm) wide, and 3 to 12 leaves that are produced in two rows on the apical third of the stem.	Cylindrical pseudobulbs 16–48 inches (40–122 cm) long. Pseudobulbs have 3 to 12 leaves that are produced in two rows on the upper third of the stem. They often have purplish margins.	Can reach 20 inches (50 cm) high; the average is 4–4.7 inches (10–12 cm) high. They are leafy in the upper third and each pseudobulb has only three to five green leaves
<b>Leaves</b>	3–6 inches (8–15 cm) long and about 0.8 inches (2 cm) wide. They often have a purplish tinge	4–6 inches (10–15 cm) long and about 1.2 inches (3.5 cm) wide. They often have purplish margins	4.7 inches (12 cm) long and an inch (2.5 cm) wide
<b>Inflorescences</b>	Arched, 8 to 16 inches (20–40 cm) long. Arise from nodes near the end of both old and new canes, and these canes may or may not have leaves. It is possible for a cane to have several inflorescences at the same time.	Arched inflorescences can grow from 8 to 12 inches (20–40 cm) long	Inflorescences are 4–12 inches (10–30cm) long
<b>Flower count</b>	2 to 20 large flowers	2 to 20 flowers	1 to 8 flowers

Flower color	lilac-purple, occasionally white, faintly blue or faintly pink and usually (80%) have a prominent white spot on the labellum	lilac purple, occasionally white, faintly blue or faintly pink. Unlike <i>Den. bigibbum</i> var. <i>bigibbum</i> , there is (usually) no white spot on the darker purple lip	Usually lilac-purple, but can be white, faintly blue or faintly pink. There is no white spot on the labellum.
Flower size	1.2 inches (3.0 cm) wide by 2 inches (5.0 cm) high.	Slightly larger, 1.4–2.8 inches (3.5–7 cm)	The flowers are similar to those of <i>Den. Bigibbum</i> var. <i>superbum</i> , but with a much shorter inflorescence
Flower structure	Petals large and usually overlap	Sepals are similar in length to the petals. Petals are very broad.	The sepals are narrow, while the petals are as broad as they are long
Blooming season	Usually March thru July in the Southern Hemisphere (autumn to winter), but plants have been known to flower as early as January or as late as October	Usually March thru July in the Southern Hemisphere (autumn to winter).	In the Southern Hemisphere, flowering occurs between January and October, peaking from March to July (autumn to winter)
Flower life	Flowers last about a month	Flowers last about a month	Flowers last about a month

A little more detail, graphical information, on the species distribution is provided in the figure below.

Differences between the species (b, var. *Bigibbum*; s, var. *superbum*; c, var. *compactum*):

- Distribution – Cape York Peninsula
  - b Northern half into Papua New Guinea
  - s East Coast
  - c Hartley Creek area
- Climate Conditions, habitat – trees and rocks, coastal scrub
  - s Maybe more salt tolerant
  - c Grows almost exclusively on rocks
- Pseudobulbs
  - b & s Up to 48 inches (120 cm) long, most often about 16–24 inches (40–60 cm)
  - c Can reach 20 inches (50 cm) high; the average is 4–4.7 inches (10–12 cm) high
- Leaves
  - b 3–6 inches (8–15 cm) long and about 0.8 inches (2 cm) wide. They often have a purplish tinge
  - s 4–6 inches (10–15 cm) long and about 1.2 inches (3.5 cm) wide. They often have purplish margins
  - c 4.7 inches (12 cm) long and an inch (2.5 cm) wide. Leaves are green.



- Inflorescences
  - b & s 8 to 16 inches (20–40 cm) long
  - c 4–12 inches (10–30cm) long
- Flower count
  - b & s 2 to 20 flowers
  - c 1 to 8 flowers
- Flower color
  - b Approximately 80% of the population have a prominent white spot on the labellum
  - s Usually no white spot on the darker purple lip
  - c There is no white spot on the labellum.
- Flower size
  - b 1.2 inches (3.0 cm) wide by 2 inches (5.0 cm) high.
  - s & c Slightly larger, 1.4–2.8 inches (3.5–7 cm)
- Flower structure
  - b Petals large and usually overlap
  - s Sepals are similar in length to the petals. Petals are very broad.
  - c The sepals are narrow, while the petals are as broad as they are long

## **Hybridization:**

This section is dominated by Den. bigibbum (aka. Den phalaenopsis), 633 F1 and 7850 total progeny. The second most used species in this section is Den. affine with 77 F1 and 772 total progeny. A table of all three species and the natural hybrid, broken down by decade is shown below.

<b><u>bigibbum</u></b>	<b><u>1880</u></b>	<b><u>1890</u></b>	<b><u>1900</u></b>	<b><u>1910</u></b>	<b><u>1920</u></b>	<b><u>1930</u></b>	<b><u>1940</u></b>	<b><u>1950</u></b>	<b><u>1960</u></b>	<b><u>1970</u></b>	<b><u>1980</u></b>	<b><u>1990</u></b>	<b><u>2000</u></b>	<b><u>2010</u></b>	<b><u>2020</u></b>	<b><u>Total</u></b>
Reg	0	2	0	0	1	14	34	461	670	750	1722	1496	1358	1342	56	7906
Assc Awds	0	0	0	0	0	13	48	160	205	162	319	424	293	230	0	1854
<b><u>affine</u></b>																
F1	0	0	0	0	0	0	0	2	11	16	109	235	164	233	2	772
AA	0	0	0	0	0	0	0	0	2	2	26	56	17	15	0	118
<b><u>williamianum</u></b>																
F2	0	0	0	0	0	0	0	0	15	17	19	8	6	11	0	76
AA	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	5
<b><u>x superbums</u></b>																
F3	0	1	0	0	1	2	11	121	255	309	722	629	623	585	15	3274
AA	0	0	0	0	5	5	0	27	85	56	129	161	134	64	0	666
<b>Total</b>																
Reg	0	3	0	0	2	16	45	584	951	1092	2572	2368	2151	2171	73	12028
Assc Awds	0	0	0	0	5	18	48	187	292	220	474	646	444	309	0	2643

From the above table one can see that although the first crosses were made in was made in 1893 then quickly dropped and then started again in 1926 and then exploded from 1950 till today. The peak in registering crosses occurred in 1980s with a corresponding peak occurring in associated awards in the 1990s.

Looking at Den. Bigibbum progeny with first most 17 unique primary, F1, progeny (associated F1 progeny from 146 to 6) the most crosses were made with the Spatulata Family (14 crosses) followed by Dendrocoryne (2 crosses) and a single cross with the Latouria Family.

There are probably over 8,500 associated with the Bigibbum species. Select hybrids:Den. bigibbum Family:



Den. May Neal  
'Taino' AM/AOS  
Feb 1976, NS 7.5 cm



Den. Jaquelyn Thomas  
'Orquivalle' JC/AOS  
Nov 2016, NS 7.0 x 4.5 cm



Den. Hickam Deb  
'Nancy' AM/AOS  
Oct 1984, NS 8.2 cm



Den. Eboni Purple  
'Splash' AM/AOS  
Oct 2018, NS 5.9 x 6.0 cm



Den. Hawaii Strpes  
'Nora' FCC/AOS  
Jan 2016, NS 9.0 x 7.0 cm

Den. affine Family (not included pictured in Bigibbum Family above):



Den. Baby Pink



Den. Chao Praya Gem



Den. Kuranda Classic  
'Joyce Suzuki' AM/AOS  
Oct 1997, NS 8.0 x 7.5 cm



Den. Tanamera Beauty  
'Hallie' AM/AOC  
May 2014, NS 8.3x7.6 cm



Den. Alick Dockrill  
'Samantha Joy' AM/AOC  
Apr 2000, NS 6.5 x 7.8 cm

## References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x6.2, update: March 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Wood, H. P.; *The Dendrobiums*, 2006

Kamemoto, H.; Amor, T. D.; Kuehnle, A. R.: *Breeding Dendrobium Orchids in Hawaii*, 1999

AOS Bulletin, *Review of the "Antelope" Dendrobiums*, Ossian, C. R.; Vol. 50/51, Oct-1981 to April-1982

Orchids, Jan 2018, *Dendrobium bigibbum – Part 1: The Species*, Bonnell, L., Vol. 87 910, pg. 38-47

## Award Descriptions (Jul 2020)



### **Dendrobium Pauline – Quality Award Description**

(Den. phalaenopsis x Den. discolor)

Twenty-three open flowers on a gracefully arched inflorescence; sepals and petals white, lightly overlaid rose purple, margins slightly undulated; sepals white picotee, lateral sepals arched, overlay tending to no overly basally; petals heavier overlaid centrally, slightly spatulate; lip tri-lobe, mid lobe white, lightly overlaid rose purple, side lobes and central area sepia, mid-lobe lancelet, side lobes almost enclose the column; column sepia

overlaid rose purple distally, anther cap cream; substance firm; texture diamond-dust.

### **Dendrobium Chao Praya Gem – Quality Award Description**

(Den. Madame Thong-In x Den. Pinky)

Sixty-three almost full flowers and three buds on three inflorescences; flowers white, heavily overlaid rose purple basally, sepals lanceolate, petals spatulate, dorsal sepal and petals recurved; lip white heavily overlaid rose purple basal half, tending to encircle the column; column white, overlaid rose purple basally, anther cap white; substance firm; texture matte.



### **Dendrobium Rakpaibulsombat – Cultural Award Description**

(Den. Margaret Joan Fell x Den. phalaenopsis)

Six hundred thirtyfour slightly reflexed white flowers and 48 buds on 21 inflorescences; an extremely well-balanced plant, 37 cm wide by 28 cm high, grown in a 15-cm square basket, foliage clean, blemish-free, numerous keikeis in flower; dorsal sepal and petals slightly reflexed; lip ovulate, enclose column; column and anther cap white; substance firm; texture matte.

### **Dendrobium Black Spider – Quality Award**

#### **Description**

(Den. gouldii x Den. Halawa Beauty)

Twenty-two flowers and one bud well arranged on one 52-cm inflorescence; sepals dark purple-mahogany, basally bright yellow, dorsal slightly twisted, lateral sepals fully twisted, recurved; petals very dark mahogany, basally bright yellow, slightly spatulate, flat; lip purple-mahogany, midlobe overlaid dark purple-mahogany distally; column yellow, anther cap light yellow; substance firm; texture waxy.



### **Dendrobium Susilo Bambang Yudhoyone – Quality Award Description**

(Den. Pikul Tuck Soon x Den. Adele William)

Sixteen cupped, slightly twisted, margins undulated open flowers on one staked, 31-cm inflorescence; sepals and petals white; lip white, overlaid heavily purple, midlobe overlaid lightly distally, open; column and anther cap white; substance firm; texture matte.

# Dendrobium Section Phalaenanthe

Schlechter, Die Orchid. Due. Nue Guinea (1912)

Type: **Dendrobium [Den.] bigibbum** [den-DROH-bee-um bye-JIB-bum]

## Color Breeding Lines



Dendrobium bigibbum  
'Zelda Neuendorff' HCC/AOS  
Apr 2001, NS 5.8 x 4.3 cm



The species in the Phalaenanthe section are dominate in color. The negative is the limited color pallet. Flower color ranges from violet, deep lilac, purple, magenta, pale lilac, rosey mauve to white, see pictures below. Prior to further discussion on color, I need to point out that early Den. Bigibbum var. superbums (aka. Den. phalaenopsis) AOS awardees,



Den. bigibbum  
'Louise Uedoi' HCC/AOS  
Oct 1995, NS 8.0 x 7.2 cm



Den. bigibbum  
'Linda's Forever' AM/AOS  
Aug 2007, NS 5.8 x 4.8 cm



Den. affine  
'Graham' HCC/AOC  
Apr 2002, NS 5.4 x 5.1 cm



Den. williansianum  
'Ruth' CBM/AOS  
May 1976, NS 5.7 cm



Den. Bigibbum var. superbums  
'Holly' HCC/AOS  
Sep 1987, NS 7.8 cm

seven cultivars (3 AMs, 4 HCCs), were NOT uniform in color, see picture on the right. I suspect this was either a "Judging Fad" or a 'sport' (to be discussed). I only point this out because we are still seeing crosses (but NOT in todays line bred Den. Bigibbum var. superbum line) being awarded with colored distal sepals and/or petals.

Early breeding programs either improved the species by line breeding, compare line breed awarded clone 'Zelda Neuendorff' with in situ cultivars above (deeper color and fuller

form), or by the introduction of a species from another dendrobium section and then crossing back select clones within Phalaenanthe section, resulting in small percentage of the introduced specie(s), an example is on the right (Den. Red Maroon 'The Bob' AM/AOS) is over ~90% Den. bigibbum (15.1% Den. Bigibbum, 52.4% Den. phalaenopsis, 13.6% Den. schroederianum, 9.1% Den. superbiens and the most recent species was used 6 generation back) and less than 10% all other species (6.5% Den. tariunum, 2.8% Den. tokai, and 0.4% Den. discolor). This later approach was used to enhance the flower color (in the specific case to the right a darker, deeper shade of red purple, could have shown similar pictures for other Phalaenanthe Section color forms) and introduction of hybrid vigor. [Note: Den. superbiens is a natural hybrid between Dendrobium bigibbum and Den. discolor].

As a side note, line breeding will tend to stimulate 'sports' (a plant(s) with morphological differences from the rest of pod siblings). Lines of breeding that have been generated from sports are: splash petal, pansy, stripes (collected from rubble while installing transmission lines), blue, etc. Examples are shown below.



Den. Red Maroon  
'The Bob' AM/AOS  
Jun 2015, NS 6.4 x 6.0 cm



Den. Candy Stripe  
'Odom's Delight' AM/AOS  
Feb 2015, NS 7.4 x 6.5 cm



Den. Kuranda Classic  
'Violete' HCC/AOC  
Apr 2012, NS 8.0 x 8.3 cm



Den. Candy Stripe  
" AD/AOS  
Oct 1981, NS 8.3 cm



Den. Aridang Blue  
'Sarah's Jewel' AM/AOS  
Sep 2018, NS 6.5 x 6.5 cm

Additional colors have been a desire in Den. Bigibbum breeding lines and this is presently being addressed by the introduction of Spatulate traditionally and recently, with very limited success, Latouria species. The major color that is being introduced is Yellow / Green. Examples of recently awarded cultivars are shown below:



Den. Burana Jade  
'Sharimabelle' AM/AOS  
Mar 2017, NS 6.1 x 5.5 cm



Den. Thongchai Gold  
'Piinnwattana' HCC/AOS  
Jun 2017, NS 7.0 x 6.0 cm



Den. Verde Luz  
'Nirberto Molina' AM/AOS  
Jul 2017, NS 10.0 x 7.0 cm



Den. Aridang Green  
'Charmaine Finch' AM/AOS  
Apr 2015, NS 6.5 x 5.0 cm

The following observations were made after looking at the five recently, 2017-May 2020 and 2015, awarded Den. bigibbum green / yellow grexes:

1. As a general rule, the percentage of Den. bigibbum is less than 50%, while the percentage of the yellow / green species is 35 to 65%. The yellow / green species with usually the largest percentage contribution is Den. schulleri, see picture below and is in the parentage of all the awarded crosses. Only one other yellow / green species was in all crosses, Den. tokai with between 8 to 18% genetic contribution, also shown below. Other non-Den. bigibbum species that were in the top three

genetic contributors, in order of number of times used are Den. discolor (in 3 of 5 crosses), Den. gouldii and Den. stratiotes (each in 1 of 5 crosses).



Den. schulleri  
'Kalfred Yee' AM/AOS  
Jun 1967, NS 6.1 x 5.5 cm



Den. tokai



Den. discolor  
'Karlo Javy' AM/AOS  
Mar 2019, NS 3.2 x 3.2 cm



Den. gouldii

2. Den. bigibbum is genetically around 50% or less due color dominance.
3. All five of the awarded crosses are progeny of Den. May Neal.

**Den. May Neal** (Den. Hawaii x Den. schulleri), 1949, William Kirch Orchids, 171 F1 and 2334 total progeny, 9 AOS awards (5 AMs, 2 HCCs, 2 CCMs). Select progeny: **Den. Pixie Princess** (Den. Pixie Nani x Den. canaliculatum), 1986, F. Aisaka, 6 F1 progeny, 7 AOS awards (1 AM, 3 HCCs, 2 CCEs, 1 CCM); **Den. Palolo Sunshine** (Den. Anching Lubag x Den. Shogun), 1989, Bee Lian, 67 F1 and 118 total progeny, 11 AOS awards (6 AMs, 5 HCCs); **Den. Liholiho** (Den. May Neal x Den. Ethel Kawamoto), 1956, Mrs. J. McCoy, 68 F1 and 427 total progeny, 4 AOS Awards (2 AMs, 2 HCCs); **Den. Anching Lubag** (Den. Betty Ho x Den. Stacey Ohashi), 1984, Miyamoto, 62 F1 and 272 total progeny, 2 AOS Awards (1 AM, 1 HCC).



Den. May Neal  
'Taino' AM/AOS  
Feb 1976, NS. 7.5 cm



Den. Pixie Princess  
'Ametrine Empress' HCC/AOS  
Apr 2005, NS 6.0 x 5.0 cm



Den. Palolo Sunshine  
'Exotic Gold' AM/AOS  
Sep 2010, NS 9.0 x 7.5 cm



Den. Liholiho  
'Robert Perreira' AM/AOS  
Mar 1969, NS 7.0 cm



Den. Anching Lubag  
'Remar' HCC/AOS  
Apr 1986, NS 7.6 cm

The final breeding line that will be addressed is with the Latouria Section. The positive qualities added are floriferous, heavy substance, and sometimes fragrance; while current the resulting crosses do not add to the Den. bigibbum color palette. A typical flower is shown to the right. Some of the Latouria species that have been used are (in no particular order): Den. alexandrae, Den. johnsoniae, Den. eximium, Den. spectabile, Den. atroviolaceum, Den. convolutum, etc.



Den. Crystal Rose  
'Sarah Jane' HCC/AOS  
Mar 2017, NS 6.2 x 5.0 cm

## **References:**

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x6.2, update: March 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Kamemoto, H.; Amor, T. D.; Kuehnle, A. R.: *Breeding Dendrobium Orchids in Hawaii*, 1999

AOS Bulletin, *Review of the "Antelope" Dendrobiums*, Ossian, C. R.; Vol. 50/51, Oct-1981 to April-1982

Orchids, Jan 2018, *Dendrobium bigibbum – Part 1: The Species*, Bonnell, L., Vol. 87(1), pg. 38-47

Orchids, Feb 2018, *Dendrobium bigibbum – Part 2: Classic Breeding Lines*, Bonnell, L., Vol. 87(2), pg. 128-137

Orchids, Mar 2018, *Dendrobium bigibbum – Part 3: Intersectional Hybrids; Stars and Stripes*, Bonnell, L., Vol. 87(3), pg. 205-213

Orchids, May 2018, *Dendrobium bigibbum – Part 4: Recent Hybridizing Activity*, Bonnell, L., Vol. 87(5), pg. 367-371

# Dendrobium Breeding Lines.

## What might we be seeing at the Judging Tables now and in the near future?

To address these two questions, I reviewed the table below. In regards to breeding lines, as indicated in the table below, I have split Dendrobiums into seven major breeding lines; Phalaenanthe Section hybrids (Den. bigibbum), Spatulata Section Hybrids, Densiflora and Formosae Section Hybrids, Dendrobium Section Hybrids, Latouria Section

### AOS Awardees by 'SWROGA Schedule'

	2020	2019	2018	2017	2015	2010	2000	1980	Key Species	F1	Total
<u>bigibbum</u>	2	7	7	10	16	8	18	6	<u>bigibbum</u>	633	7,906
<u>Spatulata</u> 'Twisted'	1	15	12	14	14	11	24	5	<u>taurinum</u> <u>discolor</u>	153 152	5,186 3,691
<u>Spatulata</u> 'Not Twisted'	0	1	0	0	0	1	0	1	<u>canaliculatum</u>	214	625
<u>Callista / Formosae</u>	0	6	1	5	2	4	4	2	<u>chrysotoxum</u> <u>formosum</u>	36 46	45 124
<u>Nobile</u> (Dendrobium)	2 + 0	3 + 4	3 + 3	3 + 0	4 + 1	6 + 0	3 + 1	5 + 0	<u>nobile</u>	99	2,609
<u>Latouria</u>	6	20	18	13	14	7	4	0	<u>atroviolaceum</u> <u>macrophyllum</u>	47 41	267 228
<u>'Dockrillia'</u> (Rhizobium Section)	1	1	0	0	2	0	0	0	<u>fuliginosum</u>	33	173
<u>Australian</u> (Dendrocoryne Section)	8	13	7	8	9	15	6	1	<u>speciosum</u> <u>tetragonum</u>	255 70	1154 1352
All Other Sections	1	9	3	4	2	4	0	0			~700
<b>Total</b>	<b>21</b>	<b>79</b>	<b>54</b>	<b>57</b>	<b>64</b>	<b>56</b>	<b>60</b>	<b>20</b>			<b>13,880</b>

Hybrids, Australian Dendrobium Hybrids, and remaining sections. I then reviewed AOS awards given to Dendrobiums given during a year and placed them into one of these major breeding lines.

NOTE1: If a hybrid received more than one award in a calendar year it was counted only once, such as multiply awards per cultivar or multiple cultivars.

NOTE2: A cultivar winning awards in separate years will be counted in once in appropriate years.

NOTE3: For the Dendrobium Section, there are two numbers separated by a "+" sign. The first number is the number of Nobile type hybrids receiving awards while the second number reflects the remaining Dendrobium Section hybrids.)

The last three columns list key species of each section, corresponding number of first-generation progeny and total progeny for this species.

I also split Spatulata and Australian Sections into two sections.

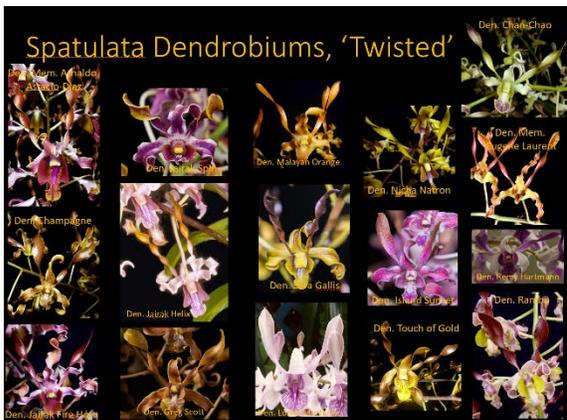
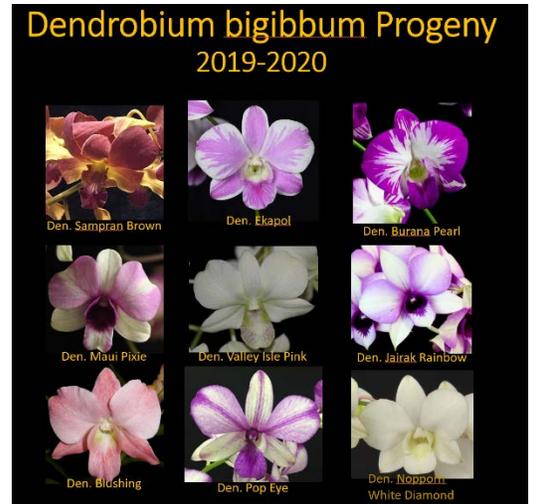
First some general comments.

The number of Dendrobium hybrids receiving AOS awards is presently around 50 to 80 a year and appears to have been in this vicinity since 2000. This is up from the 20 to 30 Dendrobium hybrid AOS awardees in the 1979-1981 timeframe. Is this due to an increase in breeding activity, new breeding trends that have caught the public / judges eye, or is it due an increase in interest of growing orchids (you can now purchase orchids in grocery / large box stores).

The other point is the trend to smaller size, compact, plants. Mature / well grown early Dendrobium hybrids generally had canes that were 1 or more meters in length, were as most current plants are less than half a meter in cane length.

Individual Section comments

**Phalaenanth Section hybrids (Den. bigibbum)** – AOS awarded plants appear to be relatively low but constant. There are usually around 10 awardees per year, some years there number of awardees will be in the high teens. The recent awarded clones trends tend to be strips, peloric, green and pastel colors. The lavender clones that are awarded tend to be VERY dark or bright colored. I am surprised that there are not more yellow or colored lips awardees.

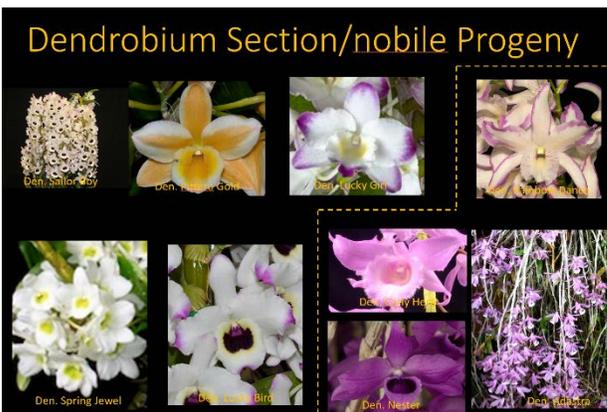


**Spatulata Section Hybrids** – The number of awarded spatulata hybrids has generally been around 10 to 15 for the last 20 years occasionally getting in the low twenties. The recent dominate color form being award are dark old gold to dark yellow brown. The recent trend tends may be to brighter and lighter colors.

Not all spatulata hybrids/species are 'twisted', and these tend to not catch a judges eye and are rarely awarded. We will be seeing more of these since the parent

species tend to be compact growers.

**Densiflora and Formosae Section Hybrids** – The hybrids in these sections tend to be very showy but with little color variation, generally either white or yellow with darker (yellow, orange, to red) lips. For the past 40 years there have been less than 5 awardees per year in these sections total. Presently there does not to be any significant changes / trends in breeding.

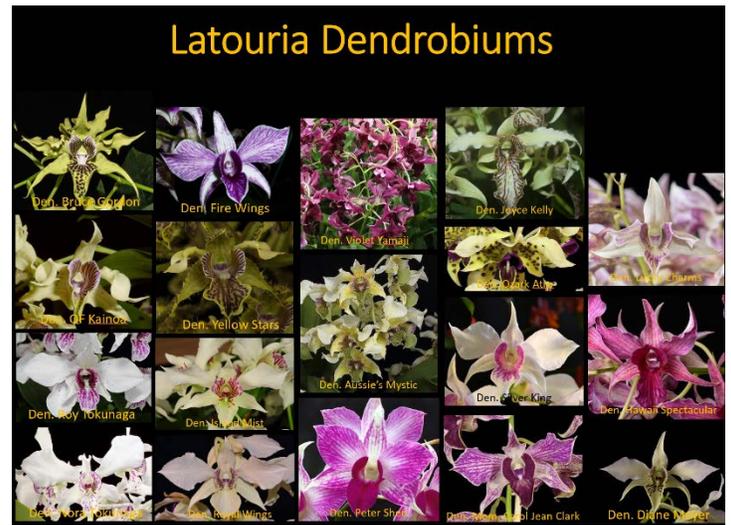


**Dendrobium Section Hybrids** – This section is easily divided into two sections, Nobile type hybrids and everything else.

Nobile hybrids have evolved to a VERY high level that over the past 40 years there are generally less than 5 AOS awardees per year. No recent breeding trends stand out.

There does appear to be an increase in the number of 'Dendrobium Section hybrids that are NOT nobile type'. As the nobile type, the flowers are very showy and the floral display catches your eye. The number awardees generally none per year but in the last few years this has change to be around three awardees per year.

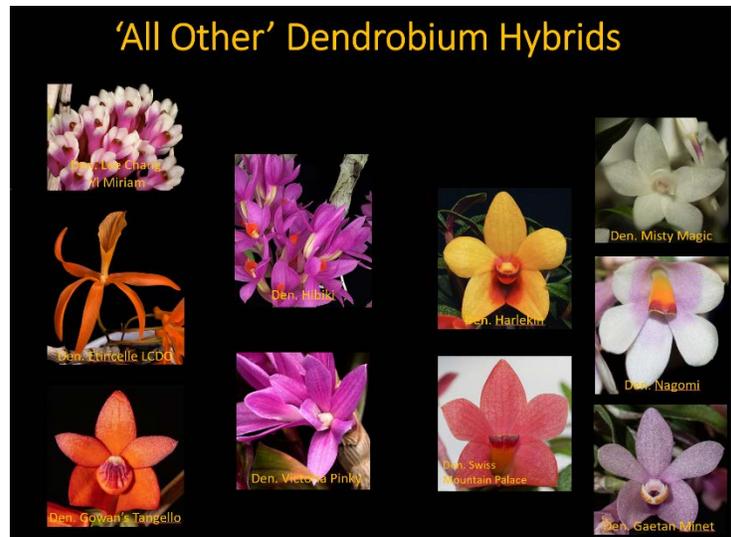
**Latouria Section Hybrids** – Latouria sections hybrids have increasingly shown up on the judging tables since the turn of the century, from only four in 2000 to twenty awardees in 2019. The latest breeding trends tend to focus on Den. atroviolaceum hybrids, looking for flatter and larger long lasting flowers on compact plants, eye catching lips, and strips. Another breeding trend is with Den. convolutum resulting in green flowers with dark lips. A third trend is breeding with Den. aberrans resulting in very compact plants with a large number of flowers.



**Australian Dendrobium Hybrids** – The group of plants that most people think of as Australian Dendrobiums come from the Dendrocoyne and Rhizobium Sections. Although it is generally thought that these are the latest and greatest dendrobiums to appear on the USA scene, they have been receiving 7 to 15 awards for the last 10 years. There

appears to be a recent up tick in awards due to availability and USA breeding. Recent breeding trends are towards fuller larger flowers and introduction of Dendrobium tetragonum into breeding programs.

Remaining sections – The remaining AOS awarded dendrobiums are generally from the Calypstrochilus Section. The most awarded breeding line involves Dendrobium cuthbertsonii followed by Dendrobium bracteosum.



**References:**

[www.orchidspecies.com](http://www.orchidspecies.com)  
<http://apps.kew.org/wcsp/qsearch.do>  
<https://secure.aos.org/aqplus/SearchAwards.aspx>  
 OrchidWiz Database x6.2, update: March 2020  
 Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000  
 Kamemoto, H.; Amor, T. D.; Kuehnle, A. R.: *Breeding Dendrobium Orchids in Hawaii*, 1999

## Award Descriptions (Aug 2020)



### **Dendrobium Sunglow – Quality Award Description**

(Den. speciosum x Den. fleckeri)

Forty-three golden flowers on two slightly arched inflorescences; dorsal sepal erect; lateral sepals pendulous arch; petals blushed orange apically, recurved and reflexed; lip cream, tri-lobe, lobes golden, blotched marron; column and anther cap golden; substance firm; texture diamond-dust.

### **Dendrobium Somsak – Quality Award Description**

(Den. Rakpaibulsombat x Den. Theodore Takiguchi)

Thirty-three full flowers and twelve buds on two inflorescences; flowers white, lateral sepals apically midrib green; lip white, throat heavily overlaid raspberry, serrate edge; column and anther cap white, lightly overlaid raspberry; substance firm; texture matte.



### **Dendrobium Yellow Ribbon – Cultural Award Description**

(Den. Golden Blossum x Den. Hambuhren Gold)

One hundred twenty-three pristine, stellate flowers and 17 buds beautifully presented on 50 inflorescences borne on 15 canes of a 45-cm wide by 30-cm tall robust, beautifully vase-shaped specimen grown in a 16-cm wide by 10-cm tall plastic pot; flower golden; lip golden, throat darker; column and anther cap cream; substance firm; texture matte.



### **Dendrobium Colonial Surprise – Quality Award Description**

(Den. Aussie Angel x Den. Aussie Ira)

Twenty-two stellate flat flowers and one bud well arranged on three inflorescences; sepals white heavily overlaid dark marron, basally transiting to lightly overlay, thin white picotee; petals white overlaid dark maroon; lip white, trilobe, sidelobes lightly overlaid mark marron, mid lobe overlaid very dark maroon, thin dark white picotee, keel and throat white; column white overlaid lightly maroon; anther cap white; substance firm; texture matte.



### **Dendrobium Goldenrod – Quality Award Description**

(Den. Floy Day x Den. Liholiho)

Twenty-four, light lime green flowers on a 41-cm inflorescence; sepals cupped, slight twist and recurve apically; petals recurved, slight twist; lip tri-lobed, open, central keel area white; column and anther cap light lime green; substance firm; texture matte.



# Dendrobium Section Spatulata

## Lindley, London J. Bot. 2: 236 (1843)

### Type: Dendrobium [Den.] antennatum

[den-DROH-bee-um an-ten-AY-tum]

## Characteristic Summary

Most of the hybrids in the Dendrobium genus have been between plants in the section Phalaenanthe and Spatulata. The initial crosses, 1934, (later in Hawaii, 1940s, and Australia, 1960s) were made in South-East Asia where the plants were grown outside under trees or in simple lath houses under wet weather conditions. The resulting plants tended to have long canes (6 feet [2 meters]) with flowers that would last well when cut, aka. the cut flower trade.

The plants in the Spatulata Section are characterized by long pseudobulbs that bloom on one to more, long multiflowered inflorescence arising from the apical nodes of the stem carrying wide open, long lasting flowers with mostly twisted petals and sepals, tri-lobed lip with three or more keels along the midlobe and a prominent mentum. There are currently 49 species and one natural hybrid. The table below is a summary of the ten most hybridized (both F1 and total progeny) and most award species.



Den. antennatum  
'Riverwood' AM/AOS  
May 2009, NS 4.0 x 7.2 cm

Name	Country	Climate	Progeny F1/Total	AOS Awards											
				FCC	AM	HCC	JC	AD	AQ	CCE	CCM	CHM	CBR	Total	
Dendrobium antennatum	Queensland Australia, Papua and New Guinea, the Solomon Islands and surrounding islands	Warm to Hot	83/181		2	1	1					4			8
Dendrobium aries	New Guinea	Hot	23/1266												0
Dendrobium canaliculatum	Australia and New Guinea	Warm to Hot	212/628		2	3						5		1	11
Dendrobium discolor	Australia	Warm to Hot	157/3710		4	2					1	5			12
Dendrobium gouldii	Papua and New Guinea and the Solomon Islands	Hot	173/3319		2	2	1				1	4	1		11
Dendrobium helix	New Guinea	Hot	80/307		2	2							1		5
Dendrobium lasianthera	Papua and New Guinea	Warm to Hot	223/1032		9	4							1		14
Dendrobium lineale	New Guinea	Warm to Hot	104/2970			1					3	5		2	11
Dendrobium nindi	northeastern Australia and sporadically in New Guinea	Hot	104/739												0
Dendrobium schulleri	western Guinea	Hot	112/2900		2							1			3
Dendrobium stratiotes	western New Guinea, the Moluccas, the Sunda Islands and Sulawesi	Hot	142/3926		7	3								1	11
Dendrobium strebloceras	Malaysian archipelago	Hot	44/74		3	2						1	1		7
Dendrobium sutiknoi	New Guinea		37/98		3	2									5
Dendrobium tangerinum	New Guinea	Warm to Hot	60/517		2	3					1	3		1	10
Dendrobium taurinum	Philippines	Hot	152/5228			1									1
Dendrobium tokai	Fiji and Tonga	Warm to Hot	26/5737												0

Key: Cold – 50 to 58F at night; Cold to cool – 50 to 66F at night; Cool – 58 to 66F at night; Cool to warm – 58 to 75F at night; Cool to Hot – 58 to 85F at night; Warm – 66 to 75F at night; Warm to Hot – 66 to 85F at night; Hot – 75 to 85F at night

The first thing to note from this table is that Spatulata species do NOT received many awards, total awards ranging from 5 to 14 to be among the top ten. AOS quality awards are a total of 56% of the total AOS awards received, with no FCCs, 42 AMs, 29 HCCs, and 2 JCs. Den. lasianthera has received the most AOS awards with 14 received. Den. lasianthera also has the most F1 progeny while Den. tokai has the most total progeny. The following categories were further broken out for some discussion.



Den. tangerinum  
'Sheila' AM/AOS  
Mar 2018, NS 3.3 x 6.3 cm



Den. taurinum  
'Roman Holiday' HCC/AOS  
May 1983, NS 5.1 cm

of well received by novelty growers) and Den. canaliculatum (currently in high demand in support of the current hybridizing trend toward smaller plant size).

**In the top ten in all three categories:** Five species fall into this category. The species in this category I like to think of as major genetic contributors.



Den. discolor  
'Karlo Javy' AM/AOS  
Mar 2019, NS 3.2 x 3.2 cm

**Only in the top ten AOS awards only:** Four species fall in this category: Den. helix, 5 awards; Den. strebloceras, 7 awards; Den. sutiknoi, 5 awards; and Den. tangerinum, 10 awards. In all cases these species have a significant number of progeny, ranging from 37 to 80 F1 and 74 to 517 total progeny, currently just not enough to fall in the top ten of progeny. It appears that although these plants are attractive, they may not be the best breeding parents or maybe they are just being used as parents.

**Only in the top ten in total number of progeny:** Two species fall in this category, Den. aries and Den. tokai. This usually the case when at least one of the F1 (or later) progeny is involved in a key grex, which is the case for both species.

Den. aries was crossed with Den. taurinum in 1949 yielding Den. Janice Tanaka. Of the Den. aries 1266 total progeny, 1183 were the total progeny of Den. Janice Tanaka.

Den. tokai was crossed with Den. phalaenopsis (Den. bigibbum) in 1938 yielding Den. Hawaii, a key hybrid in the Phalaenantha hybrids. Of the Den. tokai 5737 total progeny, 5325 were the total progeny of Den. Hawaii.

**In the top ten in both F1 and total progeny, but no in top ten in awards:** Three species fall into this category are probably plants that are significant parental contributors either in floral or growth habits (these attributes will not be discussed in detail here since in all cases reports on these species will follow). The plants in this category are Den. nindi, Den. schulleri, and Den. taurinum.

**In the top ten in both AOS awards and F1 progeny, but not total progeny:** There are two species that fall into this category. The plants in this category are generally either up and coming major parents or is very well received by the novelty growers. The two species are: Den. antennatum (falls into the category



Den. tokai



Den. canaliculatum  
'Gordonvale Special' AM/AOS  
May 2015, NS 3.5 x 2.5 cm

**Den. discolor:** This species has not only twisted sepals and petals but the sepals and petals margins are also undulated, yielding a VERY twisted two tone dark chocolate to light yellow flowers on canes that can be 5 meters long and 8 cm in diameter. The F1 major progeny: Den. Hula Girl (Den. Hawaii x Den. discolor) 39 F1 and 1076 total progeny; Den. Alice Spalding (Den. tokai x Den. discolor) 25 F1 and 1168 total progeny; and Den. Taurus (Den. taurinum x Den. discolor) 32 F1 and 930 total progeny.

**Den. gouldii:** This twisted sepal and petal species whose uniform colored flowers range from white, blue, brown, and gold on canes that can be 2 meters long.



Den. gouldii

The F1 major progenies are: Den. Jaquelyn Thomas (Den. gouldii x Den. phalaenopsis) 146 F1 and 2046 total progeny; Den. Momi Cummins (Den. gouldii x Den. Hula Girl) 14 F1 and 541 total progeny.

**Den. lasianthera:** As mentioned earlier, Den. lasianthera has received the most AOS awards and also the most AOS quality awards 13 and the most AMs of all species in the Spatulata section. But as a parent it has not done as well, ranking eighth among all Spatulata section species with nearly a quarter of all progeny associated with Den. Constance (Den. discolor x Den. lasianthera) with 275 total progenies. The canes can reach up to 3 meters long.

**Den. lineale:** The pseudobulbs grow to about 2 meters long and 2 to 3 cm diameter. The inflorescences are up to 75 cm long, arching, with numerous variable color (white or pale yellow) with blue veining flowers up to 5 cm across. Of the five species in this group it has won the fewest AOS quality awards (one HCC), and has the sixth most total progeny. Major progeny: Cross with Bigibbum Group, Den. Louisae (Den. schroederianum x Den. lineale) with 32 Fa and 882 total progeny AND Den. Neo-Hawaii (Den. lineale x Den. phalaenopsis) with 34 F1 and 768 total progeny; Den. Brisbane (Den. superbiens x Den. lineale) with 8 F1 and 639 total progeny; Den. Walter Oumae (Den. Theodore Takiguchi x Den. lineale) with 73 F1 and 578 total progeny.

**Den. stratiotes:** The pseudobulbs grow to about 1 meter long with a swollen base 2 to 3 cm diameter. The inflorescences are at most 40 cm long with 3 to 10 flowers. Flowers are generally pale yellow to white with petals green distally amount varies and a red purple veined lip. Although there are a large number of progeny most progeny are associated with two grexes: Den. Caesar (Den. phalaenopsis x Den. stratiotes) with 114 F1 and 2407 total progeny and Den. Theodore Takiguchi (Den. Valley King x Den. phalaenopsis) with 68 F1 and 2262 total progeny.



Den. lineale  
'Paul Parks' HCC/AOS  
Feb 2002, NS 6.5 x 4.2 cm



Den. lasianthera  
'Krull-Smith' AM/AOS  
Oct 2020, NS 6.0 x 5.0 cm



Den. stratiotes  
'Megan's Beauty' HCC/AOS  
Jun 2014, NS 6.3 x 10.1 cm

## References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

# Species Data Sheet

**Dendrobium stratiotes** Rchb.f., Gard. Chron., n.s., 25: 266 (1886)

[den-DROH-bee-um stra-ti-OH-teez]

Den. stratiotes is considered by many to be the most attractive of the Spatulata Dendrobiums. The name stratiotes is derived from the word 'soldier,' presumably inspired by flowers in row with erect petals. Found in western New Guinea, the Moluccas [Halmaheira and Morotai], the Sunda Islands and Sulawesi at elevations near sea-level. It is a medium to large sized, hot to warm growing epiphyte with clustered, terete to long fusiform pseudobulbs, up to 1 meter long. Blooms in the summer and fall on an erect to suberect, 3 to 12" (7.5 to 30 cm) long, inflorescence with 4 to 15, large flowers, up to 4" (10 cm) high, that arise from the middle to the apex of mature pseudobulbs. Petals are white, typically the top two-thirds are yellow-green to green. The dorsal sepal slants forward at a jaunty angle, and the lateral sepals are swept back. The flared lip has side lobes that are streaked purple and a center lobe that is boldly purple-veined. The flowers last around six weeks. Based on the literature the plants are difficult to grow outside, reduced watering in the winter months, nearly constant moisture while the new pseudobulbs are forming, and tendency of the pseudobulbs to rot (insure that that the pseudobulbs



Den. stratiotes  
'Megan's Beauty' HCC/AOS  
Jun 2014, NS 6.3 x 10.1 cm

do NOT contact the potting media).

The has been known since 1843, but was not described until 1886.

Judge using the general scale.

## Synonyms / Varieties / forms:

Synonyms – None

The most common cultivar, and the most awarded, is the 'Albescens' form. The petals are a pale yellow-green and the lip is pure white.



Den. stratiotes  
'Kazuyuki' AM/AOS  
Jul 2017, NS 6.5 x 10.0 cm

## Awards:

Below are AOS awards that Vanda tessellata has received:

	FCC	AM	HCC	AQ	AD	JC	AQ	CCE	CCM	CHM	CBM	TOTAL
AOS		7	3								1	11
Year(s) Awarded		1991-2017	2004-2014								1977	

This species has received 11 awards since initially being shown in 1977. Of these awards only two have been for the none 'Albescens' form, an HCC and the CBM.

## Breeding Characteristics:

Although there are a large number of progeny, 3926 total progeny, most progeny are associated with two grexes: Den. Caesar (Den. phalaenopsis x Den. stratiotes), 1937, with 114 F1 and 2407 total progeny and Den. Theodore Takiguchi (Den. Valley King x Den. phalaenopsis), 1957, with 68 F1 and 2262 total progeny. Both grexes have many significant grexes as their progeny.

The first hybrid made with Den. stratiotes was Den. Caesar in 1937 by Nagrok and presently has roughly two-thirds of the Den. stratiotes progeny. It was not initially recognized as a key grex with the first progeny not being registered until 1950 (13 years later) by Singapore Botanical Gardens. Breeding with Den. stratiotes, F1 progeny, appears to be relatively constant with some slight peaks in the 1940s, 1980s, and present (2010s). Den. stratiotes breeding attributes are: smaller plant size than most species in the Spatulata section, lavender-veined spade shaped lip, flower arrangement on inflorescences, and flower size. The table below list the Den. stratiotes progeny registered per decade and awards associated with the grex (per OrchidWiz 7.0).

<u>stratiotes</u>	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020	Total
Reg	0	1	12	141	167	244	876	874	857	711	43	3926
Assc Awds	0	7	7	38	62	57	165	195	160	73	0	764
F1	0	1	11	40	16	8	20	15	10	18	3	142
Assc Awds	0	7	7	4	9	3	9	4	2	0	0	45
F2	0	0	1	87	68	43	61	35	27	29	0	351
Assc Awds	0	0	0	19	11	5	15	17	0	8	0	75
F3	0	0	0	14	59	61	86	53	46	32	2	353
Assc Awds	0	0	0	15	27	5	8	1	13	2	0	71

## 'Major' Hybrids:



Den. Caesar  
'Pink' AM/AOS  
Sept 2011, NS 7.5 x 7.5 cm

**Dendrobium [Den.] Caesar** (Den. phalaenopsis x Den. stratiotes), registered in 1937 by Nagrok, 114 F1 and 2407 total progeny, 6 AOS awards (4 AMs, 2 HCCs). Major progeny: **Den. Candy Strip**, see below; **Den. Palolo Sunshine** (Den. Anching Lubag x Den. Shogun), 1989, Bee Lian, 67 F1 and 118 total progeny, 11 AOS awards (6 AMs, 5 HCCs); **Den. Enobi Purple**, see below; **Den. Hawaii Stripes**, see below.

**Dendrobium [Den.] Theodore Takiguchi** (Den. Valley King x Den.

phalaenopsis), 1957, T. Enomoto, 68 F1 and 2262 total progeny, 10 AOS awards (2 AMs, 6 HCCs, 1 JC, 1 CCM). Major progeny; **Den. Doreen** (Den. Theodore Takiguchi x Den. phalaenopsis), 1961, T. Takiguchi, 78 F1 and 666 total progeny, 9 AOS awards (2 AMs, 5 HCCs, 1 JC, 1 CCM); **Den. Walter**



Den. Candy Stripe  
'Odom's Delight' AM/AOS  
Feb 2015, NS 7.4 x 6.5 cm

**Oumae** (Den. Theodore Takiguchi x Den. lineale), 1963, W. Oumae, 73 F1 and 578 total progeny, 1 HCC/AOS award; **Den. Enobi Purple**, see below; **Den. Hawaii Stripes**, see below.

**Dendrobium [Den.] Candy Strip** (Den. Dianne McFarlane x Den. Margaret Joan Fell), 1979, K. J. McFarlane, 68 F1 and 322 total progeny, 5 AOS awards (1 AM, 1 HCC, 1 AD, 2 CCMs). Major progeny: **Den. Burana Pearl** (Den. Hirota White x Den. Burana Stripe), 1999, P. Buranaraktham, 25 F1 and 32 total progeny, 6 AOS awards (1 FCC, 3 AMs, 1 HCC, 1 CCM);

**Den. Burana Stripe** (Den. Thanaid Stripes x Den. Chorthip Ohashi), 1996, P. Buranaraktham, 22 F1 and 63 total progeny, 4 AM/AOS awards; **Den. Hawaii Stripes**, see below.



Den. Hawaii Stripes  
'Nora' FCC/AOS  
Jan 2016, NS 9.0 x 7.0 cm

**Dendrobium [Den.] Enobi Purple** (Den. Enobi Komachi x Den. Laguna Princess), 1996, K. Karasawa, 19 F1 and 20 total progeny, 7 AOS awards (4 AMs, 1 JC, 1 CCE, 1, CCM). No major progeny.

**Dendrobium [Den.] Hawaii Stripes** (Den. Roy Tokunaga x Den. Nida), 2012, H & R Nurseries, 1 F1 progeny, 13 AOS awards (2 FCCs, 4 AMs, 5 HCCs, 1 AQ, 1AD). No major progeny.

**Dendrobium [Den.] Pixie Princess** (Den. Pixie Nani x Den. canaliculatum), 1986, H & R

Nurseries, 6 F1 progeny, 7 AOS awards (1 AM, 3 HCCs, 2 CCEs, 1 CCM). No major progeny.

**References:**

**References:**

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

AOS Bulletin, *Dendrobium Breeding Trends*, Davidson, B.; Vol. 63, Jun-1994, pg. 638-646

AOS Bulletin, *New guinea Orchids – II: The Antelope Dendrobiums*, Warren, R.; Vol. 59, Mar-1990, pg. 252-259



Den. Theodore Takiguchi  
'Vera' AM/AOS  
Oct 1978, NS 7.3 cm



Den. Enobi Purple  
'Splashy' AM/AOS  
Oct 2018, NS 5.9 x 6.0 cm



Den. Pixie Princess  
'H & R' AM/AOS  
Feb 2011, NS 4.5 cm

# Species Data Sheet

**Dendrobium tangerinum** P.J.Cribb, Orchadian 6: 174 (1980)

[den-DROH-bee-um TAN-ger-en-um]

Dendrobium tangerinum has been in cultivation since 1940, when it was collected by an Australian soldier. The plant was called Dendrobium 'Tangerine' or by others as Den. strepsiceros until 1980 when it was formally described by P. Cribb. It grows well under intermediate conditions and will quickly grow into a specimen plant, resents being divided.

This small to large sized, hot to cool growing epiphyte occurs in coastal and subcoastal areas of Papua New Guinea in two separate populations, one up to 400 meters and the other around 1600 meters. There is no mention of any differences, plant or floral, between these two populations. The erect canes up to 75 cm (30 in.) in height with a slightly swollen at the base (diameter of 3 cm, 1 in). The 14" to 18" [35 to 45 cm] long inflorescences can occur year-round at the upper of the the canes with up to 20 flowers lasting about two months. The flowers are orange yellow to orange red. The dorsal sepals are upright and twisted two to three times.

A slight lessening of water and fertilizer through the winter months is beneficial. Resume water and fertilizer with the onset of new growth in the spring.

Judge using the general scale.

## Synonyms / Varieties / forms:

Synonyms – Den. Tangerine, Den. strepsiceros

## Awards:

Below are AOS awards that Den. tangerinum has received:

	FCC	AM	HCC	AQ	AD	JC	AQ	CCE	CCM	CHM	CBM	TOTAL
AOS		2	3					1	3		1	10
Year(s) Awarded		2013-2018	1995-2016					2019	1993-2019		1989	

This plant has received a relatively few awards but not bad for a plant first described in 1980.

## Breeding Characteristics:

Breeding with Den. tangerinum has been limited with only one primary hybrid out of the 60 crosses having significant progeny. The next two grexes, Den. Tan Horns with 30 total progeny and Den. Memoria Kip McKillop with 16 total progeny, having significant fewer progeny than Den. Bitan with 336 total progeny. In addition not until the third generation was there a grex, Den. Candy Stripe with 68 F1 and 332 total progeny, that produced multiple lines of breeding, see table below. This line of breeding was related to feathered and striped flowers with the classical Den. bigibbum shape which influenced by the Den. bifalce influence.

Kew Name	Parent 1	Parent 2	Year	Hybridizer	F1/Total
Den. tangerinum					60/517
Den. Bitan	Den. bifalce	Den. tangerinum	1978	K. J. McFarlane	3/336
Den. Dianne McFarlane	Den. Bitan	Den. Margaret Joan Fell	1978	K. J. McFarlane	4/330
Den. Candy Stripe	Den. Dianne McFarlane	Den. Margaret Joan Fell	1979	K. J. McFarlane	68/322



Den. tangerinum  
'Sheila' AM/AOS  
Mar 2018, NS 3.3 x 6.3 cm

Below is a table of Den. tangerinum breeding through the first three generation.

<u>tangerinum</u>	1960	1970	1980	1990	2000	2010	2020	Total
Reg	0	8	97	106	117	182	7	517
Assc Awds	0	8	28	35	18	40	0	129
F1	0	4	18	9	11	18	0	60
Assc Awds	0	3	3	1	0	14	0	21
F2	0	2	17	11	11	29	0	70
Assc Awds	0	0	6	1	1	3	0	11
F3	0	2	8	6	3	24	0	43
Assc Awds	0	5	0	2	3	4	0	14

From the above table, one sees that even though there has been NO additional lines of breeding, interest in breeding with Den. tangerinum has continued. I was not able to find any reason for this, but my guess is that the relative small size of Den. tangerinum is the reason.

### 'Major' Hybrids (Major breeding line):



Den. Bitan

**Dendrobium [Den.] Bitan** (Den. bifalce x Den. tangerinum), 1978, K. J. McFarlane, 3 F1 and 336 total progeny, no awards

**Dendrobium [Den.] Candy Stripe** (Den. Dianne McFarlane x Den. Margaret Joan Fell), 1976, K. J. McFarlane, 68 F1 and 322 total progeny, 5 AOS awards (1 AM, 1 HCC, 1 AD, 2 CCMs). Major progeny: **Den. Burana Pearl** (Den. Hirota White x Den. Burana Stripe), 1999, P.

Buranaraktham, 25 F1 and 32 total progeny, 6 AOS awards (1 FCC, 3 AMs, 1 HCC, 1 CCM); **Den. Burana Stripe** (Den. Thanaid Stripes x Den. Chorthip Ohashi), 1996, P. Buranaraktham, 22 F1 and 63 total progeny, 4 AM/AOS awards; **Den. Hawaii Stripes** (Den. Roy Tokunaga x Den. Nida), 2012, H & R Nurseries, 1 F1 progeny,

13 AOS awards (2 FCCs, 4 AMs, 5 HCCs, 1 AQ, 1AD). No major progeny.

### Other 'Less Major' Hybrids:

**Dendrobium [Den.] Tan Horns** (Den. tangerinum x Den. lasianthera), 1982, D'Bush, 9 F1 and 30 total progeny, no awards

**Dendrobium [Den.] Memoria Kip McKillop** (Den. helix x Den. tangerinum), 1980, McKillop, 8 F1 and 16 total progeny, no AOS awards. No major progeny.

### References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://op.aos.org/award>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

AOS Bulletin, *Dendrobium Breeding Trends*, Davidson, B.; Vol. 63, Jun-1994, pg. 638-646

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Den. Candy Stripe  
'Odom's Delight' AM/AOS  
Feb 2015, NS 7.4 x 6.5 cm



Den. Memoria Kip McKillop  
'Zorro' HCC/AOC  
Jun 2019, NS 6.1 x 6.8 cm

# Common Questions that a Judge may receive.

1. Thrip infestation

Answer: First if it is at the judging table then per the 'Judging Handbook' "... Plants showing signs of obvious disease or infestation by pests shall not be judged; however, the presence of a few insects on a plant or in its potting medium, not adversely affecting flower quality, is not sufficient reason to disqualify a plant from receiving a quality award."

If it is someone seeking answers would recommend then look at the AOS website in regards to control of trips (the site has many different ways to combat thrips and everyone has their individual preferences in regards to control.)

2. Their plant appears unestablished, weak

Answer: Would start by asking some questions, such as how long have you had the plant, has it always looked like this, have you changed anything recently (repotted, location, spraying nearby, etc.). Based on there answers would then come up with what needs to be modified / change to attempt to save the plant or get a new plant.

3. Their plant is in inappropriate medium to grow well

Answer: Ask them to provide some history on the plant making sure that to determine if it has been repotted recently, what was it in, was it repotted in a different media, what care was provided to the plant after the shock of repotting, how often do they water, etc. Based on their answers would come up with a suggestion based on my limited experience of what works for me if appropriate or my limited knowledge.

4. The plant or blooms are clearly stressed by some other condition – bugs, temperature, pesticide, poor culture, water problems, other infescitious agents, etc.

Answer: See answers to question 2 above for solution.

5. Caught at the sales tables, you are requested to pick a "good one out for me"

Answer: I would start by asking what orchids they like / dislike, color preference, where would they be growing the plant (window still, patio, shade house, greenhouse, etc.), how often do they water.

6. Presented with an average bloom, you are asked if it is award worthy

Answer: I would initially make a positive comment about the plant (such as color, beautiful lip, lots of flowers, etc.) and then turn the question around and ask the owner of the plant what they like best about the plant. This should start a conversation to where we can discuss the plus and minus of the plant and reminding the person that the plant is judged against it's siblings, its heritage, as well as generally standards.

## Award Descriptions (Sep 2020)



### **Den. Speewah Classic – Quality Award Description**

(Den. Classy Lips x Den. Kuranda Classic)

Seven full flat flowers on a 18 inch (46 cm) inflorescence; sepals white, overlaid magenta, lighter medially and distally; petals magenta; lip petaloid; column white, overlaid magenta; anther cap white, lightly overlaid magenta; substance firm; texture crystalline.

### **Den. Chester – Quality Award Description**

(Den. Caesar x Den. Jester)

Fourteen jaunty flowers on one 25 inch (64 cm) inflorescence, base color white; sepals lightly overlaid rose-lavender, margins undulated; petals overlaid rose-lavender apically, single twist; lip tri-lobe, side lobes lightly overlaid rose-lavender apically, mid lobe lightly overlaid rose-lavender and veined rose-lavender, basally veined rose-lavender; column white; anther cap cream; substance firm; texture glistening.



### **Den. Aussie's Angelic – Cultural Award Description**

(Den. atrovioleaceum x Den. speciosum)

Seven hundred twenty-two slightly cupped starette flowers and thirty-eight buds on ten inflorescences of around 19 in (48 cm) length presented on a clean robust plant in a 15 in (38 cm) wood slat basket; sepals and petals yellow; lateral sepals bowed; petals recurved; lip tri-lobed, sidelobes heavily overlaid marron, midlobe blotched marron, fading distally, central keel light yellow; column and anther cap yellow, bottom surface blotched marron; substance thick; texture glistening.



### **Den. Wendy Lim Shuang Shuang – Quality Award Description**

(Den. Bengawan Solo x Den. lasianthera)

Nineteen nodding flowers on one 23 in (58 cm) inflorescence; sepals coiled, white lightly blushed lavender, white picotee and basally; petals twisted, white heavily overlaid lavender; lip tri-lobed, flat, white, sidelobes heavily overlaid lavender, midlobe veined lavender; column white; anther cap light yellow; substance firm; texture matte; flower presentation emphasis the lip.



### **Den. Tangerine Triumph – Quality Award Description**

(Den. tangerinum x Den. Memoria Kip McKillop)

Twelve flowers and one bud on one 28 in. (71 cm) inflorescence; dorsal sepal jaunty, twisted, light orange; lateral sepals undulated, twisted, light orange, slight orange veining; petals twisted, erect, orange; lip trilobed, sidelobe heavily dusted dark orange, midlobe lightly dusted orange, keel light lavender; column light orange, dusted orange; anther cap yellow; substance firm; texture sepals and lip matte, petals satiny.



# Dendrobium Section Dendrobium (L.) Sw., Nova Acta Regiae Soc. Sci. Upsal. 6: 85 (1799)

**Type: Dendrobium [Den.] moniliforme**  
[den-DROH-bee-um an-ten-AY-tum]

## Characteristic Summary

There are presently 56 species that compose the Dendrobium section of the Dendrobium genus. The plants are from India to New Guinea (west to east) and Australia to Japan/Korea (south to north) with a center of distribution lying in the area between India to Indochina and China to Thailand. The plants are mostly epiphytic plants of low to moderate altitude in areas with a distinct dry season and are characterized by the stems of moderate length that are often swollen to form clavate pseudobulbs carrying deciduous, leaves that are held in the upper 2/3's of the stem. The blooms occur on short to long inflorescence, arising from the apical part, during the dry season, carrying large showy flowers with an entire lip with a short mentum.

The table below is a summary of the ten most hybridized (both F1 and total progeny) and most award species, high-lighted cells are top ten in category.



Den. moniliforme

Name	Country	Climate	Progeny F1/Total	AOS Awards											F1	Total	
				FCC	AM	HCC	JC	AD	AQ	CCE	CCM	CHM	CBR	Total			
Dendrobium anosmum	Indonesia, Laos, Malaya, Myanmar, New Guinea, Philippines Sri Lanka	Warm to Hot	47/82	2	6	1	6				1	23		1	40	47	82
Dendrobium aphyllum	India, Bangladesh, Southeast Asia, China	Cool to Warm	18/33			3	1			1	9				14	18	33
Dendrobium findlayanum	China, Southeast Asia	Cool to Warm	20/2298			1						1			2	20	2298
Dendrobium friedericksianum	Cambodia, Thailand	Warm to Hot	31/132			1				1	1	2	1		6	31	132
Dendrobium heterocarpum	India, China, Southeast Asia	Cool to Warm	49/2552		2	1				1	3	1			8	49	2552
Dendrobium lamyariae	Laos, Thailand	Cold to Warm	3/5			3					2	1	1		7	3	5
Dendrobium linawianum	China, Taiwan		21/1811							1	1				2	21	1811
Dendrobium loddigesii	China, Southeast Asia	Cool	13/21		1	1					14				16	13	21
Dendrobium moniliforme	India, China, Japan, Taiwan, Vietnam	Cool	78/2081		1	1	1						2		5	78	2081
Dendrobium nobile	China, India, southeast Asia	Cool to Warm	105/2630		2	2				3	30	1	1		39	105	2630
Dendrobium parishii	India, China, Southeast Asia	Cool to Warm	32/69		3	2	3			1	3	1			13	32	69
Dendrobium pendulum	India, China, Southeast Asia	Cool to Warm	7/1775		2	2					1	1			6	7	1775
Dendrobium polyanthum	India, China, Southeast Asia	Cool to Warm	17/50		4	2	1				9	1			17	17	50
Dendrobium regium	India	Cool to Warm	12/1921									1			1	12	1921
Dendrobium signatum	Southeast Asia	Cool to Warm	22/2440									1			1	22	2440
Dendrobium unicum	Southeast Asia	Cool to Warm	20/67	1	3	6					5	1			16	20	67
Dendrobium wardianum	India, China, Southeast Asia	Cool to Warm	17/197										1	1	17	197	

Key: Cold – 50 to 58F at night; Cold to cool – 50 to 66F at night; Cool – 58 to 66F at night; Cool to warm – 58 to 75F at night; Cool to Hot – 58 to 85F at night; Warm – 66 to 75F at night; Warm to Hot – 66 to 85F at night; Hot – 75 to 85F at night

The first thing to note from this table is that Dendrobium Section species total progeny is dominated by Dendrobium nobile breeding, all ten of the species in this category have some 'nobile' breeding. Another observation is that although some species do catch the judges' eye, 40 AOS awards, the fact that a species with only 6 awards is in the top ten

indicates that most species do NOT catch the judges' eye. The seven species that are in the top ten only in awards and/or F1 progeny, generally have limit if any breeding with *Den. nobile* and will be commented on below.

**Only in the top ten AOS awards only:** Four species fall in this category: *Den. aphyllum*, 14 AOS awards; *Den. lamyiaiae*, 7 AOS awards; *Den. loddigesii*, 16 AOS awards; and *Den. polyanthum*, 17 AOS awards. In all cases these species have some progeny, ranging from 3 to 18 F1 and 5 to 50 total progeny, way below 132 of the tenth species. It appears that although these plants are attractive, they may not be the best breeding parents or maybe they are just being used as parents.



*Den. aphyllum*  
'Jocelyn' HCC/AOS  
Mar 2014, NS 5.5 x 4.2 cm



*Den. lamyiaiae*  
'Silas' HCC/AOS  
Sep 2005, NS 7.5 x 8.5 cm



*Den. loddigesii*  
'Roger Sheng' AM/AOS  
Feb 2003, NS 5.5 x 2.6 cm



*Den. polyanthum*  
'Melice' AM/AOS  
Feb 2015, NS 4.0 x 4.0 cm

**In the top ten in both AOS awards and F1 progeny, but not total progeny:** There are three species that fall into this category. The plants in this category are generally very well received by the novelty growers. The three species are: *Den. anosmum*, *Den. parishii*, and *Den. unicum*.



*Den. anosmum*  
'Waterford' FCC/AOS  
Apr 2015, NS 8.5 x 7.6 cm



*Den. parishii*  
'Lili' AM/AOS  
Mar 2019, NS 7.0 x 6.7 cm



*Den. unicum*  
'Tangerine Dream' FCC/AOS  
May 2016, 5.3 x 6.7 cm

## References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

# Species Data Sheet

**Dendrobium parishii** H.Low, Proc. Roy. Hort. Soc. London 3: 281 (1863)

[den-DROH-bee-um PAR-ish-ee-eye]

Dendrobium [Den.] parishii occurs in India, China, and Southeast Asia in broadleaf, evergreen, lowland forest and primary montane forest at an altitude of 250 to 1700 meters (800 to 5500 feet). It is a small to medium sized, hot to cool growing epiphyte with erect or downbent, yellowish 30 cm (12 in) stems (psuedobulbs) by 2 cm (0.75") in diameter, enveloped by shite, membraneous sheaths carrying stiff, leathery, deciduous, oblong-lanceolae leaves, 5-15 cm (2-6 in) long, that are apically notched. Flowering occurs from February through August with a peak season of May and June on a short, 2 to 3 flowered raceme with fragrant (rhubarb or raspberry scent), long lasting (3 or 4 weeks) flowers that are borne at the nodes on the upper half of 2 year old pendulous, leafless canes. The flowers are typically 2" (4-6 cm) wide and are highly variable in color from dark rose lavender to white.



Den. parishii  
'Lili' AM/AOS  
Mar 2019, NS 7.0 x 6.7 cm

The tubular lip is a lighter shade distally with a dark throat. See pictures below in regards to color forms.

The plants grow best with some shade and plenty of water while growing as they have heavy cloud cover in nature when the new growths appear under warm to intermediate conditions. As the growing season goes by the light should be increased to bright light and as the new growths mature in the Autumn less water should be given for a drier winter rest to initiate blooming the following season.

Judge using the general scale.



Den. parishii  
'Vickie Lynne' AM/AOS  
Jun 2009, NS 5.5 x 5.0 cm



Den. parishii  
Semi-alba form



Den. parishii  
album form

## Synonyms / Varieties / forms:

Synonyms – Den. rhodopterygium, Kew made change in 2003

There are semi-alba and album forms as shown above, all common color forms have been awarded.

## Awards:

Below are AOS awards that Den. parishii has received:

	FCC	AM	HCC	AQ	AD	JC	AQ	CCE	CCM	CHM	CBM	TOTAL
AOS		3	2			3		1	3	2		14
Year(s) Awarded		2009-2019	1989-2018			1978-1999		2007	1995-2009	1986-2011		

This species has received 14 awards since initially being shown in 1978.

## Breeding Characteristics:

There are presently only 69 progeny associated with Den. parishii and of these progeny only one cross, Den. Nester (Den. parishii x Den. anosmum), can be stated as 'major progeny' and is also the first hybrid made with Den. parishii in 1892 by Winn. To this day, it is a showstopper, when a well grown plant shown. The table below list the Den. parishii progeny registered per decade and awards associated with the grex (per OrchidWiz 7.0).

parishii	1880	1890	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020	Total
Reg	0	1	1	0	0	0	0	0	2	1	3	4	15	39	3	69
Assc Awds	0	10	0	0	0	0	0	0	2	0	0	0	2	1	0	15
F1	0	1	1	0	0	0	0	0	0	1	3	1	9	18	1	35
Assc Awds	0	10	0	0	0	0	0	0	0	0	0	0	1	0	0	11
F2	0	0	0	0	0	0	0	0	2	0	0	2	4	12	2	22
Assc Awds	0	0	0	0	0	0	0	0	2	0	0	0	1	1	0	4
F3	0	0	0	0	0	0	0	0	0	0	0	1	2	6	0	9
Assc Awds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

From this table you can see that Den. Nester, the hybrid registered in 1890, has two thirds of the awards. Also as will be found below, the other progeny of Den. parishii has not caught the judges eye. There are only five crosses with picture, consequently breeding attributes from these pictures is guessing at best. The possible breeding attributes are: bright lavender flowers, flower arrangement on inflorescences, and flower size.

## Hybrids (with pictures):



Den. Nestor  
'Rosadan' AM/AOS  
Apr 2011, NS 7.0 x 6.5 cm



Den. Little Sweetscent  
'Momilani' CDC/HOS  
Apr 2016, NS 7.0 x 6.1 cm

**Dendrobium [Den.] Nestor** (Den. parishii x Den. anosmum), 1892, Winn, 12 F1 and 29 total progeny, 10 AOS awards (3 AMs, 2 HCCs, 1 CCE, 4 CCMs). Major progeny: **Den. Supernestor**, see below; **Den. Linda Leong**, see below; **Den. Momotaro** (Den. Nestor x Den. primulinum), 2015, Tian Cheng Orchids, 4 F1 progeny, no awards.

**NOTE: Den. Little Sweetscent** has same parents as Den. Nestor, 2000, R. B. Cole, 6 F1 and 13 total progeny, no AOS awards. Has one progeny with an award, but no picture: **Den. Neifert's Quest**.



Den. Supernestor  
'Pinnacle' HCC/AOS  
Mar 1992, NS 7.2 x 3.8 cm

**Dendrobium [Den.] Supernestor** (Den. Nestor x Den. anosmum), 1965, J. A. Silva, 7 F1 and 12 total progeny, 2 AOS awards (1 HCC, 1 CCM). No major progeny.

**Dendrobium [Den.] Mackay Parish** (Den. aphyllum x Den. parishii), 2008, S. Shoemith, 4 F1 progeny, no awards. No major progeny.

**Dendrobium [Den.] Linda Leong** (Den. aphyllum x Den. Nestor), 2011, C. Mito, 2 F1 progeny, no AOS awards. No major progeny.



Den. Mackay Parish



Den. Linda Leong  
'Annemaria' ACC/AOC  
Dec 2017, NS 5.1 x 2.7 cm

## **References:**

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Wood, H. P.; *The Dendrobiums*, 2006

## Award Descriptions (Oct 2020)



### **Den. Yellow Bird – Quality Award Description**

(Den. signatum x Den. Snowflake (1904))

Thirty-three bright yellow cupped flowers and five buds on eighteen inflorescences; sepals lanceolate, erect; petals recurved; lip dominating, flat, crinkled surface, maroon feathering in throat, keels lightly spotted maroon; column and anther cap yellow; substance thick; texture matte.

### **Den. Doctor Judith –**

(Den. Mingle’s Sapphire x Den. goldschmidtianum)

Sixty-seven flowers clustered on nine inflorescences on 8 mature canes; sepals and petals lanceolate, white blushed lavender leaving a white collar basally, veins dark lavender; lip white, heavily blushed lavender, veins dark lavender, perpendicular to sepals and petals; column and anther cap white; substance firm; texture matte.



### **Den. Justin Lau – Cultural Award Description**

(Den. goldschmidtianum x Den. bullenianum)

Approximately four thousand eight hundred flowers and buds on 120 inflorescences on 10 blooming canes up to 18 inch (46 cm) in length borne on a robust clean plant 20 cm (50 cm) in diameter in a 7 in (14 cm) wood slat basket; sepals and petals old rose, maroon strips; lip old rose, heavily blushed maroon basally, veins maroon; column and anther cap dark yellow, blushed maroon; substance firm; texture matte.

### **Den. Y F Long River – Quality Award Description**

(Den. Jan Orinstein x Den. anosmum)

Eighteen nodding flowers on nine inflorescences on one pendent 23 in (58 cm) cane; sepals and petals lanceolate, erect, white striped rose-pink, lightly blushed rose pink; lip entire, white, throat rusty-red feathering to a white picotee marginally; column white, lightly blushed rusty-red; anther cap heavily blushed rusty-red; substance moderate-firm; texture matte.



### **Den. Brownly – Quality Award Description**

(Den. Ursula x Den. Moluccas)

One hundred twelve flowers on five inflorescence longest 28 in. (71 cm) in length; dorsal sepal white, maroon apically; lateral sepals ovate, half twist, white, light maroon dusting distally; petals, spatulate, white, distal half maroon; lip trilobed white, sidelobe lightly overlaid lavender, mid lobe lanceolate, lightly dusted lavender, cream picotee, keel three, extends to center of mid lobe, white to cream, with slight dusting of lavender; column white, apically light lavender overlay; anther cap cream; substance firm; texture matte; unusual breeding line



between species in Spatulata and Dendrobium sections.

# Dendrobium Section Formosae

## Roxb. ex Lindl. in N.Wallich, Pl. Asiat. Rar. 1: 34 (1830)

**Type: Dendrobium [Den.] formosum**  
 [den-DROH-bee-um for-MOE-sum]

### Characteristic Summary

This section was previously known as Nigrohirsutae, referring to the characteristic dark, black, hairs on the leaf sheaths. There are presently 46 species that compose the Formosae Section of the Dendrobium genus. The plants are distributed from India to Philippines (west to east) and China to Borneo (south to north) with Thailand being the center of distribution. The plants are epiphytic in areas with or without a defined dry season. In addition to the black hairs on the leaf sheaths, the plants are characterized by the unusually long, robust pseudobulbs carrying leaves all along the length lasting for several years and having 1 to 3 flowers in a group in the upper part of the stem. The unusually large, showy, waxy, thin, long lasting flowers are usually white with a 3 lobed lip. Some species are among the most showy of all the orchids.



Den. formosum  
 'Clara' AM/AOS  
 Mar 2007, NS 10.5 x 8.4 cm

The table below is a summary of the ten most hybridized (both F1 and total progeny) and most award species, high-lighted cells are top ten in category.

Name	Country	Climate	Progeny F1/Total	AOS Awards											Progeny	
				FCC	AM	HCC	JC	ADAQ	CCE	CCM	CHM	CBR	Total	F1	Total	
Dendrobium bellatulum	India, China, Southeast Asia	Cool to Warm	14/19		2	1				2		1		6	14	19
Dendrobium christyanum	China, Southeast Asia	Cool to Warm	7/15		3	1					1	2	1	8	7	15
Dendrobium cruentum	Southeast Asia	Hot	36/88		2	2					1		1	6	36	88
Dendrobium dearei	Borneo, Philippines	Hot	14/25		2	2	1				2			7	14	25
Dendrobium draconis	India, Southeast Asia	Cool to Warm	16/23		1						3	1		5	16	23
Dendrobium formosum	India, Southeast Asia	Cool to Warm	46/124		2		1				2			5	46	124
Dendrobium infundibulum	India, China, Southeast Asia	Cool to Warm	18/46		3	1				1	1			6	18	46
Dendrobium lowii	Borneo	Warm	7/7		2	3					2	1	1	9	7	7
Dendrobium sanderae	Philippines	Warm	14/37		2	3				1	3	2	2	13	14	37
Dendrobium scabrilingue	Southeast Asia	Cool to Warm	10/30		1	3							1	5	10	30
Dendrobium schuetzei	Philippines	Warm to Hot	11/25									1		1	11	25
Dendrobium senile	Southeast Asia	Cool to Warm	5/5		2	1					4			7	5	5
Dendrobium suzukii	Vietnam	Cool to Hot	10/10		1								1	2	10	10
Dendrobium tobaense	Sumatra	Warm	7/8		8	4						2		14	7	8
Dendrobium trigonopus	China, Southeast Asia	Cool to Warm	9/9		6	5					7		1	19	9	9

Key: Cold – 50 to 58F at night; Cold to cool – 50 to 66F at night; Cool – 58 to 66F at night; Cool to warm – 58 to 75F at night; Cool to Hot – 58 to 85F at night; Warm – 66 to 75F at night; Warm to Hot – 66 to 85F at night; Hot – 75 to 85F at night

The first thing to note from this table is that Formosae Section species are not hybridized that much, species with the most progeny is only 124, considering the appealing flowers. Another observation is that although some species do catch the judges' eye, 19 AOS awards, the fact that a species with only 6 awards is in the top ten indicates that most species do NOT catch the judges' eye. The species that are in the top ten only in awards and/or F1 progeny, generally have limited if any breeding characteristics as compared to the other species.

Some of the plants, those not included are just in the top ten, in the above table can be placed in the following groups:

**Only in the top ten AOS awards only:** Four species fall in this category: *Den. lowii*, 9 AOS awards; *Den. senile*, 7 AOS awards; *Den. tobaense*, 14 AOS awards; and *Den. trigonopus*, 19 AOS awards, most in Section. In all cases these species have some progeny, ranging from 5 to 9 F1 and 5 to 9 total progeny, not that far out of the tenth most total progeny number of 15. It appears that although these plants are attractive, they may not be the best breeding parents or maybe just introduced.



*Den. lowii*  
 'Magnifico Two' AM/AOS  
 May 2003, NS 6.1 x 5.4 cm

*Den. senile*  
 'Mary Ann' AM/AOS  
 Mar 2007, NS 6.5 x 4.8 cm

*Den. trigonopus*  
 'Red Hawk' AM/AOS  
 May 2018, NS 6.7 x 5.0 cm

*Den. tobaense*  
 'Golden Gate' AM/AOS  
 Feb 2018, NS 6.5 x 9.7 cm

**In the top ten in progeny, both F1 and total:** There are four species that fall into this category: *Den. draconis*, 23 total progeny; *Den. formosum*, 124 total progeny (most for this section); *Den. scabrilingue*, 30 total progeny; and *Den. schuetzei*, 25 total progeny. AOS awards for these plant range from 1 to 5, evenly spl it between quality and cultural awards. These species probably have traits other than floral that is being used by the hybridizers, floral traits, or they may be recently introductions.



*Den. schuetzei*  
 'Snow Angel' CHM/AOS  
 Apr 2011, NS 11.5 x 7.8 cm

*Den. draconis*  
 'Calyn' AM/AOS  
 May 1987, NS 9.0 cm

*Den. formosum*  
 'Clara' AM/AOS  
 Mar 2007, NS 10.5 x 8.4 cm

*Den. scabrilingue*  
 'Forest's Sandy Tongue' HCC/AOS  
 Feb 2020, NS 3.5 x 3.0 cm

**In the top ten in AOS awards and progeny, both F1 and total:** There are five species that fall into this category: *Den. bellatulum*, 6 AOS awards, 19 total progeny; *Den. cruentum*, 6 AOS awards, 88 total progeny; *Den. dearei*, 7 AOS awards, 25 total progeny; *Den. infundibulum*, 6 AOS awards, 46 total progeny; *Den. sanderae*, 13 AOS awards, 37 total progeny. Species in this category generally have at least one key desired characteristic, either floral or cultural.



*Den. bellatulum*  
 'Belle's Bounce' AM/AOS  
 Nov 2004, NS 4.2 x 3.0 cm



Den. cruentum  
'Father's Love' AM/AOS  
Oct 2014, NS 4.2 x 3.0 cm



Den. dearei  
'Jocelyn' AM/AOS  
Oct 2009, NS 7.6 x 6.4 cm



Den. infundibulum  
'Vistamont' AM/AOS  
Feb 2012, NS 9.0 x 8.8 cm



Den. sanderae  
'Tunxis Road' CCM/AOS  
Jan 2015, NS 7.5 x 8.0 cm

**References:**

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Wood, H. P.; *The Dendrobiums*, 2006

# Species Data Sheet

**Dendrobium sanderae** Rolfe, Gard. Chron., ser. 3, 45: 374 (1909)

[den-DROH-bee-um SAN-de-ay]

Dendrobium [Den.] sanderae occurs on the Philippines island of Luzon in the central mountains at altitudes of 1000 to 1650 meters (3300 to 5400 feet). It is growing as a medium to large sized, cool growing epiphyte on trunks of pine trees with erect, slightly thickened, 1 cm (0.4 in.) diameter, below the middle, longitudinally striate stem, 30 to 100 cm (12 to 38 in.) long, carrying up to 40, ovate to narrowly ovate, leaves. The leads may grow for two years. Flowering occurs in the spring through fall on a short, apical and lateral, 2-4 flowered inflorescence carrying up to 10 long lived, more than 4 weeks, flowers that arise from the nodes near the apex of the cane. The flowers are typically 2.5 to 4.0 in. (6 to 10 cm) wide and are white with with a trilobed lip, dark maroon striping distally on sidelobes, chartreuse throat. The species is highly variable with several varieties, see below.

The plants should be grown in intermediate to cool temperatures with constant humidity. During the winter months, a slightly drier resting period, with a reduction in fertilizer, is beneficial. Resume regular water and fertilizer after the initiation of new growth in the spring.

Bright filtered sunlight and a well drained medium are recommended, vulnerable to rot.

Judge using the general scale.

## Synonyms / Varieties / forms:

Synonyms – none

Varieties / forms (from Woods):



Den. sanderae (Luzonicum)  
'Geneva's White Diamond' AM/AOS  
Aug 2019, NS 5.5 x 5.4 cm

var. sanderae – Flower characterized by lip with a variably broad blade, dark stripes on sidelobes, and needlelike straight spur. See photo above.

var. parviflorum – Plant tall, less robust, leaves slimmer. Flower smaller. Autumn flowering. Said to thrive in Manila under wet conditions.

var. luzonicum – A lowland variety with reduced lip marking.

var. milleri – Possible hybrid with Den. dearei

var. surigaense – Very distinct, some separated as a separate species, Den. surigaense. Plant smaller, pseudobulb narrower. Flowers fewer, with frilled segments and conical mentum.

var. majus – (also spelled "major") Characterized by taller plants with thicker stems, larger flowers, and smooth-edged not frilled sepals and petals. Much variation in extent of dark markings at base of lip and in attenuation of spur.



Den. sanderae  
'Tunxis Road' CCM/AOS  
Jan 2015, NS 7.5 x 8.0 cm



Den. sanderae var. parviflorum



Den. sanderae var. major  
'Vistamont' AM/AOS  
Mar 2009, NS 9.1 x 8.4 cm

There has also been a CHM/AOS award given to an “f. album” but it looks very similar to the (Luzonicum) forms awarded recently, five awards (2 AMs, 1 HCC, 1 CCM, 1 CHM).

### **Awards:**

Below are AOS awards that Den. sanderae has received:

	FCC	AM	HCC	AQ	AD	JC	CCE	CCM	CHM	CBM	TOTAL
<b>AOS</b>		3	3				1	3	2		<b>14</b>
<b>Year(s) Awarded</b>		2009-2019	2001-2020				2009	1978-2015	2004-2014		

This species has received 14 awards since initially being shown in 1978.

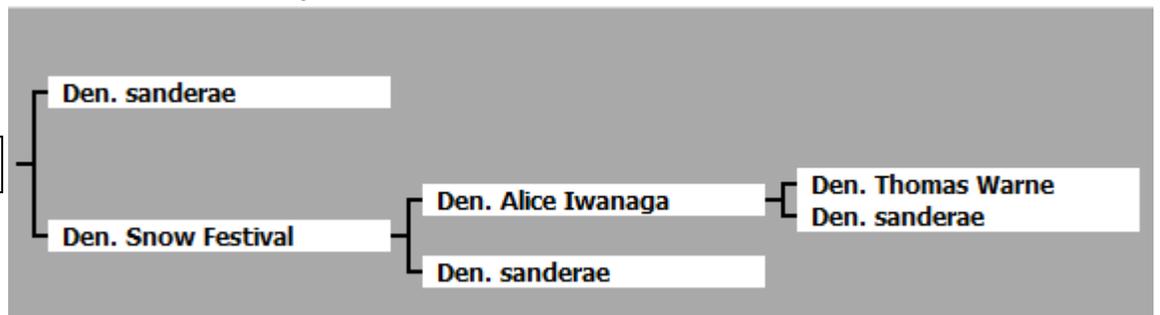
### **Breeding Characteristics:**

There are presently only 37 progeny associated with Den. sanderae and most of these were F1 and F2 progeny. To this day, it is a showstopper, when a well grown plant shown. The table below list the Den. sanderae progeny registered per decade and awards associated with the grex (per OrchidWiz 7.0).

<b>sanderae</b>	1920	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020	Total
Reg	0	1	3	0	4	4	7	1	9	7	1	37
Assc Awds	0	1	19	0	4	4	29	0	10	3	0	70
F1	0	1	3	0	1	0	1	0	4	3	1	14
Assc Awds	0	1	19	0	4	0	11	0	10	1	0	46
F2	0	0	0	0	3	3	2	0	5	2	0	15
Assc Awds	0	0	0	0	0	1	17	0	0	2	0	20
F3	0	0	0	0	0	1	1	0	0	2	0	4
Assc Awds	0	0	0	0	0	3	0	0	0	0	0	3

From this table you can see that the progeny of Den. sanderae appear to catch the judges eye. This is supported by the fact that 14 of the 37 progeny have received awards. There are pictures of 17 crosses, and the most interesting thing is that ALL are white, looking further it appears that this is the only breeding that has been done, aka. all parents are white. The only possible breeding attribute is: white flowers with side lobes and throat colored and flower count.

Another key point is there has been one major line of breed.



Flowers per Spike: 7.3  
NS 8.1 cm

Flowers per Spike: 11.7  
NS 8.9 cm

Flowers per Spike: 4.5  
NS 8.9 cm

Flowers per Spike: 5.2  
NS 9.0 cm

Den. sanderae

Flowers per Spike: 10.8  
NS 7.1 cm

The initial cross with *Den. schuetzei* was to increase flower size. The other crosses with *Den. sanderae* was to increase flower count.

## Hybrids (top three in awards and top four in progeny):



Den. Thomas Warne  
'H&R' AM/AOS  
Mar 2019, NS 9.0 x 8.6 cm

**Dendrobium [Den.] Thomas Warne** (*Den. sanderae* x *Den. schuetzei*), 1948, R. E. Warne, 5 F1 and 17 total progeny, 17 AOS awards (8 AMs, 5 HCCs, 4 CCMs).

Major progeny: **Den. Silver Bells**, see below;

**Den. Snow Festival**, see below; **Den. Sander's**

**Festival** (*Den. sanderae* x *Den. Snow Festival*), 2001, H & R Nurseries, 2 F1 progeny, 3 AOS awards (1 AM, 2 CCMs).

**Dendrobium [Den.] Snow White** (*Den. nobile* x *Den. sanderae*), 1949, Sanders [St. Albans], 4 F1 progeny, no awards. No major progeny.

**Dendrobium [Den.] Alice Iwanaga** (*Den. Thomas Warne* x *Den. sanderae*), 1967, E. Iwanaga, 3 F1 and



Den. Snow White

9 total progeny, 4 AOS awards (3 HCCs, 1 CCM). Major progeny: **Den. Silver Bells**, see below; **Den. Snow Festival**, see below; **Den. Sander's Festival** (*Den. sanderae* x *Den. Snow Festival*), 2001, H & R Nurseries, 2 F1 progeny, 3 AOS awards (1 AM, 2 CCMs).

**Dendrobium [Den.] Snow Festival** (*Den. Alice Iwanaga* x *Den. sanderae*), 1987, Dogashima, 3 F1 and 5 total progeny, 9 AOS awards (9 AMs, 4 HCCs, 2 CCMs). Major progeny: **Den. Sander's Festival** (*Den. sanderae* x *Den. Snow Festival*), 2001, H & R Nurseries, 2 F1 progeny, 3 AOS awards (1 AM, 2 CCMs).

**Dendrobium [Den.] Silver Bells** (*Den. aphyllum* x *Den. Nestor*), 2011, C. Mito, 2 F1 progeny, no AOS awards. No major progeny.



Den. Alice Iwanaga  
'Happiness' HCC/AOS  
Mar 1984, NS 10.2 cm



Den. Snow Festival  
'Fairy' AM/AOS  
Mar 2005, NS 9.1 x 9.0 cm



Den. Silver Bells  
'E Orchids' AM/AOS  
Mar 2016, NS 10.3 x 10.5 cm

## References:

[www.orchidspecies.com](http://www.orchidspecies.com)

<http://apps.kew.org/wcsp/qsearch.do>

<https://secure.aos.org/aqplus/SearchAwards.aspx>

OrchidWiz Database x7.0, update: September 2020

Lavarack, B.; Harris, W.; Stocker, G.; *Dendrobium and Its Relatives*, 2000

Wood, H. P.; *The Dendrobiums*, 2006

## Award Descriptions (Nov 2020)



### **Den. Hawaiian King – Quality Award Description**

(Den. Hawaiian Spectacular x Den. Formidible)

Four white cupped flowers on an inflorescence; dorsal sepal lanceolate; lateral sepals ovate; petals ovate, margins undulate; lip white, open, throat blushed yellow, margins undulated and ruffled, keels lightly blushed yellow; column white; anther cap white blushed yellow; substance firm; texture matte.

### **Den. formoso-Lowii – Quality Award Description**

(Den. lowii x Den. formosum)

Three pristine white flowers on one inflorescence on a mature cane; sepals lanceolate-ovate; petals ovate, margin slightly undulate; lip tri-lobed, white, midlobe central basal orange-red overlay diffusing quickly to yellow, keel peaks overlaid orange-red, margins undulate; column and anther cap white, apically blushed light yellow; substance firm; texture matte.



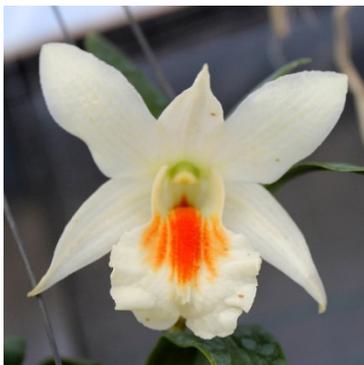
### **Den. luteolum – Cultural Award Description**

Thirty light yellow cupped flowers and 4 buds on eight inflorescences on four blooming canes up to 18 inch (46 cm) in length borne on a robust clean plant 10 in (25 cm) in diameter in a 5 in (12 cm) plastic pot; sepals and petals lanceolate; lip light yellow, throat yellow-orange, entire, margins undulate; column and anther cap light yellow; substance thin; texture matte.

### **Den. Thai Jasmine – Quality Award Description**

(Den. Jan Orinstein x Den. anosmum)

Nine nodding, cupped flowers and two buds on three inflorescences on three erect 11 in (28 cm) canes; sepals, white, lanceolate; petals white, lanceolate-ovate; lip tri-lobed, ruffled, light yellow, overlaid orange centrally, side-lobes lightly veined orange centrally; column and anther cap, white; substance moderate-firm; texture slight sheen.



### **Den. Hsinying Susan – Quality Award Description**

(Den. Ursula x Den. Moluccas)

Six cupped stellate flowers on two inflorescences; sepals white, lanceolate; petals, lanceolate-ovate, white; lip tri-lobed, white, mid-lobe circular, undulate, recurve, keels heavily overlaid red-orange, blushed lines parallel to keels transitioning to light orange; column green, apically cream; anther cap cream; substance translucent; texture slight sheen.