

Vanda limbata Blume

ORIGIN/HABITAT: Java and the Philippines. In Java, plants are no longer common but may still be found in central and eastern Java. Plants are found only on isolated and roadside trees in the dry northern plains at elevations from near sea level to about 2300 ft. (700 m). *Vanda limbata* also grows on Madura, an island of the northeast coast of Java, where Comber (1990) reports it still occurs in "great abundance" on roadside Tamarind trees. The species is also said to occur in the Philippines, but we could find no details of the habitat location in that region.

CLIMATE: Station #96933, Surabaya, Java, Lat. 7.2S, Long. 112.7E, at 10 ft. (3 m). Temperatures are calculated for an elevation of 1300 ft. (400 m), resulting in probable extremes of 92F (33C) and 54F (12C).

N/HEMISPHERE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
F AVG MAX	83	83	85	86	86	84	84	84	84	84	84	83
F AVG MIN	66	66	67	69	71	70	70	70	70	70	69	67
DIURNAL RANGE	17	17	18	17	15	14	14	14	14	14	15	16
RAIN/INCHES	0.9	0.2	0.2	0.6	2.3	6.7	10.2	10.7	8.7	5.2	3.5	2.4
HUMIDITY/%	76	71	66	67	72	80	82	83	83	80	80	75
BLOOM SEASON					*		*					
DAYS CLR @ 8AM	13	17	20	17	8	3	3	3	6	8	9	14
DAYS CLR @ 2PM	17	20	21	16	6	2	2	1	2	6	9	17
RAIN/MM	23	5	5	15	58	170	259	272	221	132	89	61
C AVG MAX	28.2	28.3	29.4	30.0	30.0	28.9	28.9	28.9	28.9	28.9	28.9	28.3
C AVG MIN	18.7	18.9	19.4	20.6	21.7	21.1	21.1	21.1	21.1	21.1	20.6	19.4
DIURNAL RANGE	9.5	9.4	10.0	9.4	8.3	7.8	7.8	7.8	7.8	7.8	8.3	8.9
S/HEMISPHERE	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN

Cultural Recommendations:

LIGHT: 3000-4000 fc. Plants require bright light but may need some protection from direct midday sun. In the habitat, heavy cloud cover dramatically reduces light. This suggests that some shading is appropriate for cultivated plants at midday, especially in summer. Strong air movement should be provided at all times.

TEMPERATURES: Throughout the year, days average 83-86F (28-30C), and nights average 66-71F (19-22C), with a diurnal range of 14-18F (8-10C).

HUMIDITY: 75-80% most of the year, dropping to 65-70% in late winter and early spring.

WATER: Rainfall is heavy in summer and early autumn. Amounts then fall gradually in autumn, followed by a dry season in winter and early spring. Cultivated plants should be watered heavily while actively growing, but their roots must be able to dry rapidly after watering. Water should be gradually reduced in autumn.

FERTILIZER: 1/4-1/2 recommended strength, applied weekly when plants are actively growing. Many growers use a high-nitrogen fertilizer from spring to midsummer, then switch to one high in phosphates in late summer and autumn.

REST PERIOD: Growing conditions should be maintained all year. Rainfall is very low for about 4 months in winter and early spring, but some additional moisture is available from heavy dew and late-night mist. Water should be reduced for cultivated plants in winter, especially those grown in the dark, short-day conditions common in temperate latitudes. Plants should not be completely without water for long periods, however. In most growing areas, occasional early-morning mistings between infrequent waterings should provide the required dry rest while keeping the plants from becoming too dry. Comber (1990) commented, "How this species survives through the long dry season without any water storage organs would make an interesting study. Fertilizer should be reduced or eliminated until new growth starts and heavier watering is resumed in spring. In the habitat, light is heaviest in winter and early spring, so as much light as possible, short of burning the foliage, should be provided.

GROWING MEDIA: Plants are usually grown in hanging pots or slatted wooden baskets filled with a very open, fast draining medium. Some are grown with only enough open chunky medium, such as charcoal, wine corks, or large cork chips, to anchor the plant until it becomes established. The roots should grow and hang down as far as they choose and should not be trimmed to make things look neat. Growers indicate that anything more than minimum root trimming can set the plant back 2-3 years. Good air movement around the roots at all times seems to be very important.

MISCELLANEOUS NOTES: The bloom season shown in the climate table is based on cultivation records.

Plant and Flower Information:

PLANT SIZE AND TYPE: A large, up to 18 in. (45 cm) monopodial epiphyte.

STEM: Up to 18 in. (45 cm) long by about 0.8 in. (2 cm) in diameter. The stems are enclosed by the distichous, overlapping sheaths located at the base of the leaves.

LEAVES: 6-10 in. (15-25 cm) long by 0.8-1.5 in. (2.0-3.8 cm) wide. Numerous leaves are distichously arranged on each stem. They are pale green, spaced rather close together, rigidly leathery, spreading but curving downward toward the tip, and have an unequally toothed apex with a sharp spike in its center.

INFLORESCENCE: Up to 12 in. (30 cm) long. The erect to ascending flower spike emerges along the leaf axils and has a rachis that is longer than the peduncle.

FLOWERS: 10-20 per inflorescence. The fragrant, long-lasting flowers are about 2 in. (5 cm) across and are all open at the same time. The sepals and petals commonly are bright cinnamon-brown with golden yellow margins. They are lighter in color on the outside where they often are flushed with lilac. The lip is pink to pale lilac. The spreading, spoon-shaped sepals and petals are about equal in length, measuring about 1 in. (2.5 cm) long, but the lateral sepals are noticeably wider than the dorsal sepal while the petals are slightly narrower. Both sepals and petals are broadly clawed at the base and have elliptical blades with broadly rounded tips. The margins of the petals are more or less wavy. The 3-lobed lip has small rounded, forward-pointing lateral lobes, and the oblong, almost flat midlobe is somewhat rectangular, is vaguely fiddle-shaped with a squarish apex, and has lateral margins that turn downward. The fleshy disc is made up by 5-7 parallel grooves, and the conical spur at the base of the lip is short and bluntly tipped.

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