

## 紅葉是如何形成的 How Do Red Leaves Form?

### 【內文 Content】

本場紅葉植物有楓香、青楓、烏桕、白桕、柿、無患子、欒木、櫻花、油桐等，錫蘭橄欖、杜英則為葉子老化前變為紅色夾在綠葉當中。

秋天日夜溫差大，白天有強光加速葉綠素分解，夜晚有低溫阻礙葉綠素合成，存在於葉中的胡蘿蔔素或葉黃素會顯現，使綠葉變黃葉。

晚秋寒流來襲，葉柄產生離層，中斷養分運送，光合作用產生的澱粉會將黃色素還原成紅色的花青素，等葉綠素分解完後，花青素顯現出來於是紅葉形成了。

Our park features various red-leaf plants, including Chinese Sweet Gum, Qingfeng (*Acer serrulatum*), Chinese Tallow Tree, White Tallow Tree, Persimmon, Soapberry, Zelkova, Cherry, and Tung Tree. Additionally, species like Ceylon Olive and *Elaeocarpus* turn red as their leaves age, creating a beautiful contrast amidst the green foliage.

In autumn, the large temperature difference between day and night plays a key role. Strong sunlight during the day accelerates the breakdown of chlorophyll, while cold nights inhibit its synthesis. This allows the carotenoids or xanthophylls already present in the leaves to show through, turning green leaves into yellow.

As late autumn cold waves arrive, an "abscission layer" forms at the base of the leaf stalk, cutting off the transport of nutrients. Starch produced through photosynthesis then converts the yellow pigments into red anthocyanins. Once the chlorophyll has completely decomposed, the vibrant red anthocyanins are fully revealed, and the red leaves are formed.

# 紅葉是如何形成的

## How Do Red Leaves Form?



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