

# PINGUICULA EMARGINATA—A VARIABLE AND DISTINCTIVE MEXICAN SPECIES

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## Introduction

Over the past two decades, the ranks of the Mexican *Pinguicula* species have swelled by the publication of numerous new species. In 1986, *P. emarginata* was added to the list by the Mexican botanists Zamudio and Rzedowski (1986). Six years after its publication *P. emarginata* was introduced into cultivation in Europe; by 1994 the species was widely distributed amongst *Pinguicula* growers. This small plant is distinctive and unlikely to be confused with other species. The principle charm of the plant is its delicate beauty combined with the wide variation in flower shape, colouring and venation.

## Description

*P. emarginata* is by no means a large plant—the rosette of foliage reaches a diameter of 9 or 10 cm. The leaves are approximately spoon-shaped with a relatively broad petiole. The leaf margin is rolled upwards to form a distinct edge. Overall the leaf colour is a pale green, though most plants also show reddish-pink pigmentation. In some plants this colour is confined to the up-turned leaf margin to give a reddish-pink band to the leaf edge. In other plants it is the base of the petiole that shows the greatest tinge of pink although this colour may also extend along the mid rib. *P. emarginata* is unusual among the commonly grown Mexican species in that its winter rosette, while compact, is never succulent. A typical late winter-early spring rosette is displayed in Figure 1.

This species flowers prolifically throughout the year. So many flowers are produced during the winter months that *P. emarginata* is a very welcome plant that cheers up these gloomy months. The flowers are unusual in comparison to other Mexican *Pinguicula*. They are quite small—usually around 1 cm in diameter—and held on stalks up to 15 cm tall. The margins of the petals are serrate, which gives the flowers a distinctive notched or frilled appearance. There is incredible variability in the flowers between different clones. Firstly, there is tremendous variation in the size of the petals (particularly the width), and the degree to which the lower three petals overlap. The nature of the serration on the petal margins and the degree of folding are also variable. Secondly, the flower colour is variable. The petals range from near-white to dark-violet and are threaded with deeper coloured veins—the intensity and degree of veining seems as unique to an individual plant as a person's fingerprint. One constant feature, however, is the yellow splotch of colour in the throat. In the United Kingdom horticulturists prefer plants which display the most vivid colouration and veining. Whilst this is understandable if one intends to grow only one representative of this species, it may stereotype the plant. My preference is to maintain several plants which display a range of characteristics—this has additional advantages that I describe below. The flowers displayed on the back cover of this issue display the characteristic darker veining over the pale petals—the veining is strong and intense on the upper petals, although slightly fainter on

the lower petals.

### Cultivation

In keeping with the plant's distinctiveness, its cultivation requirements break many of the accepted rules of thumb for Mexican *Pinguicula*. It will grow well in a compost of peat and sand, though it will equally tolerate the perlite-dominated composts now favoured by many *Pinguicula* growers. The plants must be kept wet all year round (they do not form a winter resting rosette). I always keep their pots standing in a few millimeters of water, and the plants are treated to an occasional overhead watering. In their natural habitat the plants grow on sandstone rocks along river banks—given these conditions it is not surprising that in cultivation the species prefers an acidic growth medium and year-round dampness. In my experience the plants will happily tolerate winter low temperatures of 10°C (50°F) with few problems; temperatures of 20°C (68°F) or higher produce somewhat more luxurious growth so long as high humidity is maintained. The plants do not seem to suffer from the general lack of sunlight in the United Kingdom over the winter, as the majority of my plants are kept without the benefit of artificial lighting. In the wild the plant inhabits misty woodland riverbanks, so it is not surprising that this species is tolerant to low light intensities. Care does have to be taken as light intensities increase in late spring/early summer—without shading the delicate foliage is easily burnt by strong sunlight even in the United Kingdom. Humidity is the other factor to monitor closely during the warmer periods of the year—ensure the plants are frequently watered, and occasional misting will also help matters. I suspect that these plants flower less during summer due to the lower humidity and higher light intensities. Although the plants prefer constant dampness they will tolerate a period of drought, to which they respond by producing smaller, fleshier foliage. These leaves are very different from the almost membranous leaves produced during damp conditions.

The best means of propagation is by seed, which readily germinates within a few weeks at 20°C (68°F) on a compost of peat and sand. To generate seed it is necessary to pollinate the flowers with a small brush to fit the relatively small flowers. Few if any seeds are generated by self pollination; the best results are always obtained by cross pollinating different clones. This helps maintain the variability exhibited by this species, and is the reason I maintain a variety of plants (and not just the intensely coloured clones). Leaf cuttings also work but care has to be taken



Figure 1: *P. emarginata* in late winter forming flowers.

to avoid excessive damage to the donor plant. This method of propagation is limited by the absence of a suitable winter rosette, where in many other species a large number of cuttings can be taken without harm to the donor plant. You would need to be very brave or foolish to take more than one or two cuttings from *P. emarginata*. Given time, individual plants develop new growth points so eventually a clump of plants is produced. Thus another method of propagation is to carefully divide these clumps.

#### Conclusion

*P. emarginata* is so very different from other commonly grown *Pinguicula* that it is a worthwhile addition to any collection, and not particularly difficult to maintain if consideration is given to its slightly unusual growth requirements. Of the *Pinguicula* introduced into cultivation in recent years, *P. emarginata* is a prime candidate for the creation of a new generation of *Pinguicula* hybrids. The many positive attributes of this species (long and prolific flowering period plus distinctiveness) may lead to many beautiful and desirable hybrids which could rekindle greater horticultural enthusiasm in this genus. This was suggested by Slack (1986) when he stated that the horticultural importance of *Pinguicula* could equal African Violets given time—to date this vision remains unfulfilled.

#### References:

- Slack, A. 1986, Insect-Eating Plants and How To Grow Them, Alphabooks.  
Zamudio, S., and Rzedowski, J. 1986, Tres Species Nuevos de *Pinguicula* de Mexico. *Phytologica* 60/7, 255-263.

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## RED LETTER DAYS OF A PENNSYLVANIA BOTANIST

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On July 24, 1993 The Nature Conservancy dedicated the 1.6 km<sup>2</sup> (400 acre) Thomas Darling Nature Preserve in Monroe County, Pennsylvania. This was in recognition of Tom Darling's lifelong efforts to preserve natural areas and his support of The Nature Conservancy. Mr. Darling's persistent efforts over ten years also helped result in the preservation of Lehigh Pond, one of the most pristine bog habitats in Pennsylvania. Since its dedication, the Thomas Darling Nature Preserve has been expanded to nine square kilometers (2200 acres) and includes glacial wetlands, peatlands, shrub swamps, acidic fens, marshes, wet meadows, and the state's largest native spruce, tamarack, and balsam forest.

The dedication of the preserve occurred at Bear Lake Lodge two days before Mr. Darling's 90th birthday. I drove up to Bear Lake early that day but was not able to find Mr. Darling at the house since he was walking around North Cove Bog looking at his botanical treasures. Fortunately, I located him and joined him in the survey. Many of Mr. Darling's plant rarities have survived since their introduction over sixty years ago (Sheridan, 1989).

