



DESCRIPTION Purple Pitcher is an apparent paradox — a *Sarracenia* that doesn't seem very effective as a carnivorous plant, yet the northern subspecies has spread in the wake of melting glaciers after the last ice age, until it ranges over much of Canada and the north-eastern USA. This is also the most studied of all the pitchers, partly because of its wide natural range, and numerous papers on its biology have appeared in recent years throwing new light on its ecology and adaptations.

Southern plants (subsp. *venosa*) are most heat tolerant and can be grown even in the subtropics. These are particularly well adapted to aquatic conditions, and may grow across shallow, slow-moving, acid streams. In such conditions their rhizomes float, becoming long and stringy, with unusually elongated leaves appearing on rhizome sections near the surface. The leaf spacing in such conditions is also unusual, as they are often 5 to 8 centimetres (2 to 3 inches) apart. The same plants growing in sphagnum moss at the side of the stream may be deeply bedded, with only a hole showing where the pitchers open. Not surprisingly, the southern plants are also very shade-tolerant, surviving even among quite dense shrubs in places, and thrive best with a relatively cool root zone and some shading when grown in areas with long, hot summers.

Northern plants (subsp. *purpurea*) are strongly cold-adapted, becoming stunted towards subtropical areas, and are possibly less well adapted to aquatic conditions.

Though pitchers buried among sphagnum appear half-submerged, they don't seem to adopt the floating habit of southern plants when growing free in water. Conserving water in their cold, damp, high latitude zones is a lesser problem than in the south, and plants have been recorded as growing even on relatively dry spots on hills. They are also much more tolerant of soil variations, having been recorded on soils from a distinctly acid pH 4 or so to a moderately alkaline pH 8.9.

EVOLUTION AND ADAPTATION IN THE NORTHERN

S. P. SUBSPECIES PURPUREA The northern pitcher (subsp. *purpurea*) has long been noted for its inefficiency as a carnivorous plant, but is by far the most successful coloniser among all *Sarracenia* as it has spread across much of Canada and part of the north-eastern USA in perhaps the past fifteen thousand years. Its pitchers are

Sarracenia x 'Tina', possibly an infraspecific hybrid between variants of *S. purpurea* which do not occur together in the wild, although it may also include some other genes.