

# European *Pinguicula* Species

## Taxonomy - Distribution - Cultural Conditions

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The butterwort family encloses about 50 species worldwide, 12 of these are inhabitants of Europe and the adjacent parts of Asia, but only two are widespread in this region. CASPER (1966) delineated three groups which he divided according to floral structures and vegetative organs into 12 Sections:

- I. Corolla consists of 5 more or less equally sized lobes of different colors, including yellow flowers.
  - A. Spur short, bent; no palate developed.
    1. Sect. Agnata CASPER; *P. agnata*, *P. albida*
    2. Sect. Discoradix CASPER; *P. lignicola*
  - B. Spur long, slightly bent; no palate  
3. Sect. Heterophyllum CASPER; *P. heterophylla*
  - C. Spur short, bent; palate developed  
4. Sect. Isoloba BARNH; *P. caerulea*, *P. lilacina*, *P. lusitanica*, *P. lutea*
  - D. Spur long, stretched, straight; palate developed  
5. Sect. Cardiophyllum CASPER; *P. crystallina*, *P. hirtiflora*
- II. Corolla consists of two lips, the lower enlarged, middle lobe different; different colors including yellow; spur short.
  - A. Minute corolla; spur long in proportion to corolla; palate vague  
6. Sect. Temnoceras (BARNH) CASPER; *P. crenatiloba*
  - B. Corolla larger; spur short; pouchlike; palate developed  
7. Sect. Ampullipalatum CASPER; *P. antarctica*, *P. elongata*
  - C. Corolla with very large middle-lobes; spur short, pouchlike; palate vague  
8. Sect. Micranthus CASPER; *P. alpina*, *P. ramosa*, *P. variegata*
- III. Corolla two-lobed; spur long, narrow
  - A. Corolla-tube wide; spur short in proportion to corolla  
9. Sect. Homophyllum CASPER; *P. jackii*
  - B. Corolla-tube short; spur very long  
10. Sect. Orcheosanthus DC.; *P. colimensis*, *P. gypsicola*, *P. moranensis*
  - C. Species developing hibernacula in winter; corolla-tube funnel-shaped; spur variable  
11. Sect. *Pinguicula* no yellow colors; *P. balcanica*, *P. corsica*, *P. grandiflora*, *P. leptoceras*, *P. longifolia*, *P. macroceras*, *P. nevadensis*, *P. vallisneriifolia*, *P. vulgaris*  
12. Sect. Nana CASPER yellow colors; *P. villosa*

### Distribution

*P. alpina* and *P. vulgaris* can be found in the northern temperate and mountainous regions all over the world, all other European species are restricted to different, mostly mountainous regions in various parts of Europe.

*Pinguicula bohemica* KRAJINA (which is taxonomically disputed and differs from *P. vulgaris* in the structure of flowers and fruits) is the most endangered species, it is restricted to a few bogs in Czechoslovakia and nowadays nearly extinct.

The development of the section *Pinguicula* began probably in the central mediterranean region, this hypothesis is also supported by karyological differences and the occurrence of the diploid "relic" *Pinguicula corsica*.

*Pinguicula vulgaris* has developed the highest chromosome numbers (8x64) and seems to be the youngest and most successful member of the Section.

Map 1 shows the geographical distribution:

### Cultural Conditions

Only a few European species (*P. longifolia*, *P. nevadensis*, *P. vallisneriifolia*) are not yet grown by CP-enthusiasts and in botanical gardens. The following species are available or will be available soon from various sources:

Species	Cult. Conditions
<i>P. alpina</i>	1
<i>P. balacanic</i>	1
<i>P. bohemic</i>	1
<i>P. corsica</i>	1
<i>P. crystallina</i>	2
<i>P. grandiflora</i>	1
<i>P. hirtiflora</i>	2
<i>P. leptoceras</i>	1
<i>P. lusitanica</i>	2
<i>P. vulgaris</i>	1

#### Cultural Conditions 1:

Special with winter-hibernacula

Soil: Peat and sand 1:1

All these species need a period of dormancy at about 5°C for at least 2 months in winter (eventually stored in a refrigerator) to survive for many years.

Summer temperatures should not exceed 23°C for longer periods, a slightly shaded place is suitable in summer.

If possible, these species should be kept outdoors.

The plants are not repotted at all to avoid root-damage.

Multiplication by seed, buds and leafcuttings.

#### Cultural Conditions 2:

Species without hibernacula

Soil: Peat and sand 1:1

A slightly shaded place is suitable, also a terrarium with fluorescent bulbs or an outdoor-bog.

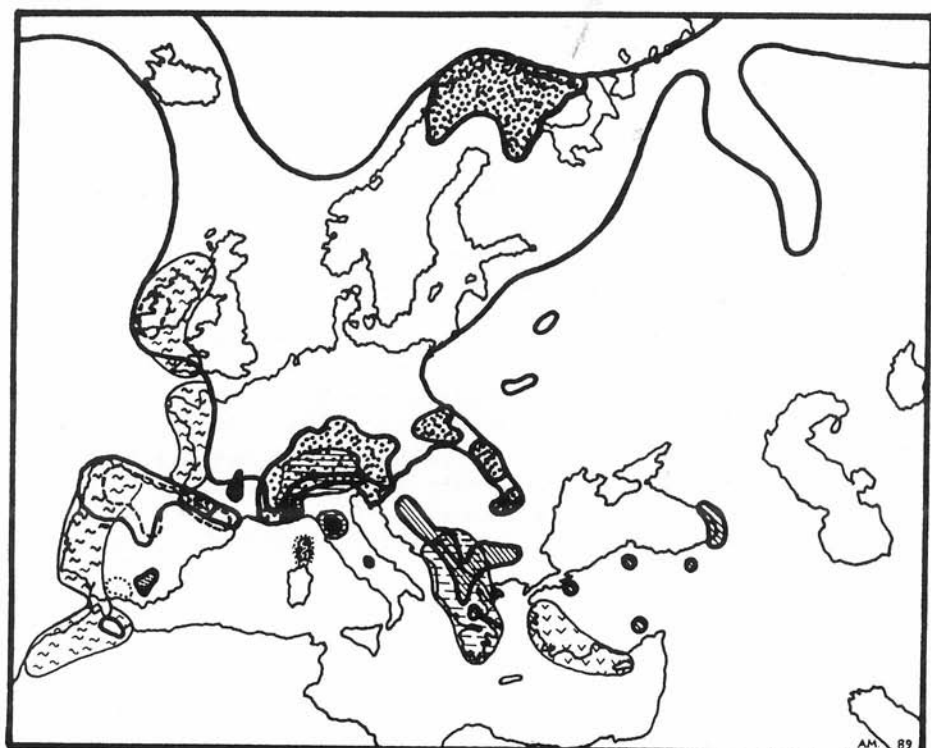
High temperatures are not problem, bu the plants should be kept moist, never we in winter. Be careful to keep the leaves dry in winter!

Multiplication by seed and leafcuttings.

## Sources

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### Map 1



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|----------------------|---------------------|---------------------|---------------------------|
| <i>P.alpina</i>      | <i>P.vulgaris</i>   | <i>P.balcanica</i>  | <i>P.vallisneriifolia</i> |
| <i>P.grandiflora</i> | <i>P.nevadensis</i> | <i>P.longifolia</i> | <i>P.corsica</i>          |
| <i>P.hirtiflora</i>  | <i>P.leptoceras</i> | <i>P.lusitanica</i> | <i>P.crystallina</i>      |