

On the relationship within the genus Hepática

According to the current doctrine of botany, relationships are based on morphological morphological (especially flower and leaf structure), phenological (especially flower and growth onset or -termination) as well as cytological characteristics.

However, especially in the case of cellular characteristics, significant research has recently been carried out. which provide further information or at least hints concerning the relationship within the genus within the genus Hepática. In the further extension of such investigations to other genera and families, it is genera and families, it is to be expected that Linne's systematics will be supplemented, corrected or even replaced in the future. or even replaced.

If we assume the state of the nucleus, the following results for the genus Hepática at present. Overview, which supersedes the classification presented under point 3:

Diploide Serie

mit $2n=14$ sind

<i>Hepática nóbilis</i> (v. <i>nóbilis</i>)	—	Europa,
<i>Hepática nóbilis</i> var. <i>acúta</i>	}	Nordamerika
<i>Hepática nóbilis</i> var. <i>obtúsa</i>		
<i>Hepática nóbilis</i> var. <i>asiática</i>	}	Nordostasien
<i>Hepática nóbilis</i> var. <i>japónica</i>		
<i>Hepática nóbilis</i> var. <i>insularis</i>		
<i>Hepática máxima</i>		
<i>Hepática falcóneri</i>		

Tetraploide Serie

mit $2n=28$ sind

<i>Hepática transsilvánica</i>	—	Europa
<i>Hepática henryi</i>	}	Nordostasien
<i>Hepática nóbilis</i> var. <i>pubescens</i>		
<i>Hepática yamatútai</i>		

The greatest diversity of the genus Hepática thus reaches northeastern Asia with four species and (about) four varieties. Morphological and cytological investigations by H. WEISS et al. *) and by M. PFOSSER *) especially in Hepática máxima showed that a close relationship exists with Hepática nóbilis var. asiática and Hepática nóbilis var. japónica - here it can be assumed that Hepática nóbilis var. asiática may be a parent species from which the endemic Hepática máxima (Ullung) and Hepática nóbilis var. japónica (Japanese Islands), which can also be regarded as an "island species". whether this is also true for the endemic Hepática nóbilis var. insularis (Cheju Island and the southern tip of the Korean Peninsula). of the Korean Peninsula) remains to be seen.

In the case of H. falcóneri there were difficulties in assigning the genus. Mainly because of the large distance between the three bracts and the petals a classification in the genus Anemóne possible; but in H. falcóneri - as in other Hepática species - the flowers appear first, and afterwards new leaves develop. Cytological examinations showed in H. falcóneri a chromosome number of $2n = 14$ (in Anemóne mostly $2n= 16$ or 28), so that a classification as Hepática falcóneri seems to be more correct. If one further assumes the occurrence of this species in the mountainous Kashmir which may be a floristic retreat and a link between the European flora region and the Sino-Japanese flora region. and the Sino-Japanese as well as the Atlantic-North American floristic region, H. falcóneri could be the prototype of the genus Hepática, because it is diploid and has basal leaves with sawed lobes. a hypothesis put forward by Mikinori OGISU et al. *); similar conclusions were reached in the studies of Hepática. similar conclusions were made in the studies of Hepática falcóneri and Hepática nóbilis var. pubescens by Tomoo MABUCHI et al. *)

The relationships to the two North American varieties Hepática nóbilis var. acúta and var. obtúsa have not yet been investigated cytologically; morphologically there are close relations to the European Hepática nóbilis. morphologically there are close relationships to the European Hepática nóbilis (v. nóbilis) and their classification as varieties is certainly justified. It is remarkable that the European species has a greater variability in leaf shape; pointed and rounded lobes and rounded lobes are often found at the same locality - perhaps the two "North American" species had split off.

The great variability of Hepática nóbilis var. japónica suggests corresponding environmental influences - Japanese growers do not exclude the possibility of a slightly higher natural radioactivity in their home country as a cause. not excluded as a cause. In any case, this is a great advantage for horticultural breeding in Japan- and in the meantime also for crossbreeding with European and North American species and varieties.

varieties, as corresponding breeding results have shown recently. Finally, the clarification of the relationships within the genus Hepática cannot be done without considering the floral without consideration of the floral history since the Late Tertiary - a challenge for cooperation between botanists between botanists, cytologists, paleobotanists, and geobotanists, if the genus is worth it to them. genus is worth it; it would already help the Hepática gardeners and friends, since this would give conclusions also with regard to crossability.

[Translated with DeepL](#)

*) s. Literaturverzeichnis