

The multiplication-biological observations of some plant species in the pasture of Bátorliget

FERENCNÉ BORONKAY, ISTVÁN LENTI

College of Nyíregyháza, Sóstói ú. 31/b., H-4400. Nyíregyháza, Hungary; e-mail:
boronkay@nyf.hu

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Nowadays we are interested in the whereabouts of the most marvellous „pulsatilla pasture” (BOROS 1924) and in the sand dunes, where spring was welcomed by thousands of blossoms of three „true-bred” *Pulsatilla* species. They mixed up with their hybrid species, bloomed and reported to everyone that there is no more such a habitat in the world.

Once in the lawn of the characteristic association of *Festucetum pseudovinae potentillosum arenariae* in Bátorliget pasture, as a sand consociation (Soó 1953) at the sides and on the top of the sand dunes beautiful *Pulsatilla* fields decorated the landscape. Even prof. TIBOR SIMON (1956) could see a beautiful *Pulsatilla* culture in the lawn of the great pasture. Specially valuable is for us the endemic species, whose name was confined by its researcher REZSÓ Soó (1956) and was called *Pulsatilla hungarica* Soó.

It is characteristic to Nyírség that here live – for their rarity – valuable species in an area of 23 hectare in a sand lawn, together with *Adonis* flowers and *Iris hungarica* (W. et K.) A. et G. Since 1986 these species are specially preserved (GENCSI 1993).

We raise the question inevitably: why can here live together the *Pulsatilla hungarica* Soó, *P. patens* (L.) MILL. and the *P. grandis* WENDER and their three hybrids? Nowadays we should only declare – in a more that careful way – that each of the above mentioned *Pulsatilla* species occur in Bátorliget pasture.

We started to register the *Pulsatilla* species on the east side of the highway which crosses the pasture of Bátorliget (when approaching Bátorliget it is the right side). The surface of the valued area is not plain, it is full of sand dunes

which have bow-like forms. The faded track of the drainage and the digged well help the better orientation. On the south side, near the road, there are cow-sheds and pens for cow-breeding. The pasture is divided by some more, rarely used dirt roads. We walked through the areas of the appointed, examined units in a chosen interval (20th March – 30th April 1998, 2000, 2002, 2004) of the breeding-season five times and examined it thoroughly.

The collected enumeration of *Pulsatilla* species is illustrated in a Table 1.

Tab. 1. *Pulsatilla* species in the pasture of Bátorliget, according to the register of 1998-2004

Reg. No Name of the species	Rate of their presence (PCS)				
	1998	2000	2002	2004	total
1. <i>P. hungarica</i>	133	187	227	87	631
2. <i>P. patens</i>	17	6	4	3	30
3. <i>P. grandis</i>	42	93	114	74	323
Total	192	286	342	164	984

According to our data we came to the conclusion, that the stand of *Pulsatilla* decreased to a critic level by 1998-2004. Their serious protection cannot be postponed further! In order to avoid their total extinction we have to increase the stand artificially. Only the special protection of *P. grandis* can secure the survival of this species, and we have to take similar steps with *P. patens*, too.