

New taxa in genus *Dactylorhiza* NECK. ex NEVSKI and new localities in family *Orchidaceae* to Hungary

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The group *Dactylorhiza incarnata* is, in the European context, rich in species, and taxonomically not completely clarified in some aspects. The following taxa are known to occur at the territory of Central Europe: *Dactylorhiza incarnata* subsp. *incarnata* L., *D. incarnata* subsp. *haematodes* (Rchb.) Soó, *D. pulchella* (Druce) Averyanov, *D. cruenta* and *D. ochroleuca*. In Hungary, the taxa *Dactylorhiza incarnata* subsp. *incarnata* and *D. ochroleuca* have been recorded until now (BORSOS 1960, SOÓ 1973). The same taxa are given in MOLNÁR et al. (1995). Despite the decreased number of localities, where *Dactylorhiza incarnata* subsp. *incarnata* occurs, large populations of this species still exist.

During a three-week stay in NE-Hungary in June 1996, which was organized on the basis of an agreement between the Slovak Environmental Agency and the Directorate of the Bükk National Park, we visited several localities where interesting species of the *Orchidaceae* family occur. Montane meadows at the village Regéc in the Zempléni Hegység Mts. belonged to the most interesting ones.

The this locality, we recorded the following representatives of the *Orchidaceae* family: *Platanthera bifolia* subsp. *latiflora*, *Gymnadenia conopsea* subsp. *conopsea*, *Traunsteinera globosa*, *Dactylorhiza fuchsii* subsp. *soóana*, *D. majalis* subsp. *majalis*, *Listera ovata*, *D. sambucina* (confirming SIMON 1977a, p. 39., SIMON 1977b, MATUS 1997) and *D. incarnata* subsp. *incarnata* which is new to the territory.

The impulse for presenting this study was the fact that we succeeded in finding two taxa which are new for the Hungarian flora, namely *Dactylorhiza incarnata* subsp. *haematodes* and *D. pulchella*, as well as rarely occurring hybrid *D. × aschersoniana*.

Methods

The scientific names of higher plants follow MARHOLD & HINDÁK (1998), names of plant communities follow ELLMAUER & MUCINA (1993). *Dactylorhiza pulchella* was classified following DELFORGE (1994), *D. × aschersoniana* nsubsp. *wiśniewski* following POTŮČEK (1990). For phytosociological records, scale of abundance and dominance (BARKMAN et al. 1964) was used, where the value 2m represents a high abundance and a dominance of 5 %, value 2a represents dominance of 5 to 12,5 % and 2b 12,5 to 25 %.

Dactylorhiza incarnata subsp. *haematodes* (Rchb.) Soó

D. incarnata subsp. *haematodes* differs from the nominate subspecies by brown-black maculate leaves, and frequently by flowers of a darker colour. The leaves can be spotted on one side in case of var. *haematodes* (Reichenb.) Soó, or on both sides in case of var. *hyphaematodes* (Neuman) Landw. The spots are mostly concentrated in the upper part of leaves. On the front side, the spots are substantially larger, but less numerous than on the back side. In some populations, specimens occur which are maculate on both sides of leaves almost continuously. At the beginning of flowering period, spots are dark, but they rapidly become pale.

In Central Europe, this taxon can be erroneously classified as *Dactylorhiza cruenta*. That species is characterized by smaller height, thicker stalk, less leaves (3 to 5), which are shorter, wider, maculate on both sides, more declining from the stalk, and obtusely grooved lengthwise. The inflorescence is shorter, with less flowers. The painting at the labellum is more narrow and articulated.

On the Regéc locality, we found three individuals with leaves spotted on both sides, identified as *Dactylorhiza incarnata* subsp. *haematodes* var. *hyphaematodes*.

In Germany and Slovakia, also the hybrid with *Dactylorhiza majalis* was found, namely *D. × aschersoniana* nsubsp. *wiśniewski* (Hemke) Potůček (POTŮČEK 1990). In contrast to *D. × aschersoniana*, it is spotted also on the back side of leaves, but the spots are mostly less numerous and small. Due to this fact, it can easily be neglected.

Dactylorhiza pulchella (Druce) Averyanov(Syn. *D. incarnata* subsp. *serotina* (Hausskn.) D. M. Moore et Soó)

As compared to *Dactylorhiza incarnata* subsp. *incarnata*, it is characterized by smaller height (10 to 25 cm), rarely up to 50 cm, smaller number (3 to 5) of more slender leaves, few flowers in the inflorescence, and at lower altitudes, flowering time is postponed by one or two weeks.

At the locality near the village Regéc, we found one individual, near the village Nyirád, we found together with A. MOLNÁR V. and R. VIDÉKI cca. five individuals in 1998.

Dactylorhiza pulchella occurs frequently together with *D. incarnata* subsp. *incarnata*, or with the other taxa of the genus *Dactylorhiza*. An extensive hybridization, even backward hybridization is frequent, what complicates the determination of individual plants.

Dactylorhiza × *aschersoniana* (Hausskn.) Borsos et Soó

This is a hybrid between *D. incarnata* and *D. majalis*, and it is very variable. Intermediate individuals are simply to be determined. In case of a hybrid close to *D. incarnata*, it can be distinguished generally by a differentially intensive maculation on leaves, and by larger, intensively coloured flowers with a more continuous and wider painting, and with a labellum with three shallow lobes. If the hybrid is more close to *D. majalis*, it can be distinguished by longer, more slender, and more erect leaves, which are terminated by hooded tips, whereby the tips of upper leaves are deflected to the stalk. The flowers are smaller, with a narrow painting.

MOLNÁR – SÜLYÖK (1997) report about one probably extinct and one recent localities. At the Regéc locality, we found one individual.

The taxa of the genus *Dactylorhiza* grow in plant communities of the class *Molinio-Arrhenatheretea*, as documented by the following phytosociological record:

Zemplén Mts., Regéc: Gyertyánküti-rétek, 5. 6. 1996 Hrivnák, Vlčko, Balázs, area 4 × 4 m, E₁ 90 %, E₀ 8 % (indeterminate), slope angle 3 , exposition SSW, altitude 650 m a. s. l., average height of herbs 40–48 cm.

Festuca pratensis 3, *Brachypodium pinnatum* 2b, *Cruciata glabra* 2a, *Dactylis glomerata* 2a, *Galium boreale* 2a, *Achillea ptarmica* 1, *Agrostis capillaris* 1, *Anthoxanthum odoratum* 1, *Betonica officinalis* 1, *Cirsium pannonicum* 1, *Filipendula vulgaris* 1, *Potentilla erecta* 1, *Prunella vulgaris* 1, *Sanguisorba officinalis* 1, *Succisa pratensis* 1, *Acetosa pratensis* +, *Achillea millefolium* +, *Avenula pubescens* +, *Briza media* +, *Campanula patula* +, *Carex montana* +, *C. pallescens* +, *C. panicea* +, *C. tomentosa* +, *Centaurea* sp. +, *Cerastium fontanum* agg. +, *Colchicum autumnale* +, *Daucus carota* +, *Deschampsia caespitosa* +, *Festuca ovina* +, *Galium verum* +, *Gladiolus imbricatus* +, *Lathyrus pratensis* +, *Luzula multiflora* +, *Lychnis flos-cuculi* +, *Myosotis scorpioides* agg. +, *Potentilla alba* +, *Primula veris* +, *Ranunculus acris* +, *R. auricomus* agg. +, *R. polyanthemus* +, *Stellaria graminea* +, *Trifolium montanum* +, *Veronica chamaedrys* +, *Viola* cf. *canina* +, *Acer campestre* r, *Ajuga reptans* r, *Dactylorhiza incarnata* subsp. *haematodes* r, *D. majalis* subsp. *majalis* r, *Juncus conglomeratus* r, *Linum catharticum* r, *Ophioglossum vulgatum* r.

In the presented record, several diagnostic species of the order *Molinetalia* and lower syntaxa occur – *Achillea ptarmica*, *Betonica officinalis*, *Carex tomentosa*, *Cirsium pannonicum*, *Deschampsia caespitosa*, *Galium boreale*, *Juncus conglomeratus*, *Ophioglossum vulgatum*, *Sanguisorba officinalis*, *Succisa pratensis*. The presence of the species of mesophilous and subxerophilous meadows and pastures (like *Festuca pratensis*, *Brachypodium pinnatum*, *Cruciata glabra*, *Dactylis glomerata*, *Agrostis capillaris*, *Anthoxanthum odoratum*, *Acetosa pratensis*, *Achillea millefolium*) indicates a substantially progressed secondary succession of wet meadows and changes of water régime.

Acknowledgements

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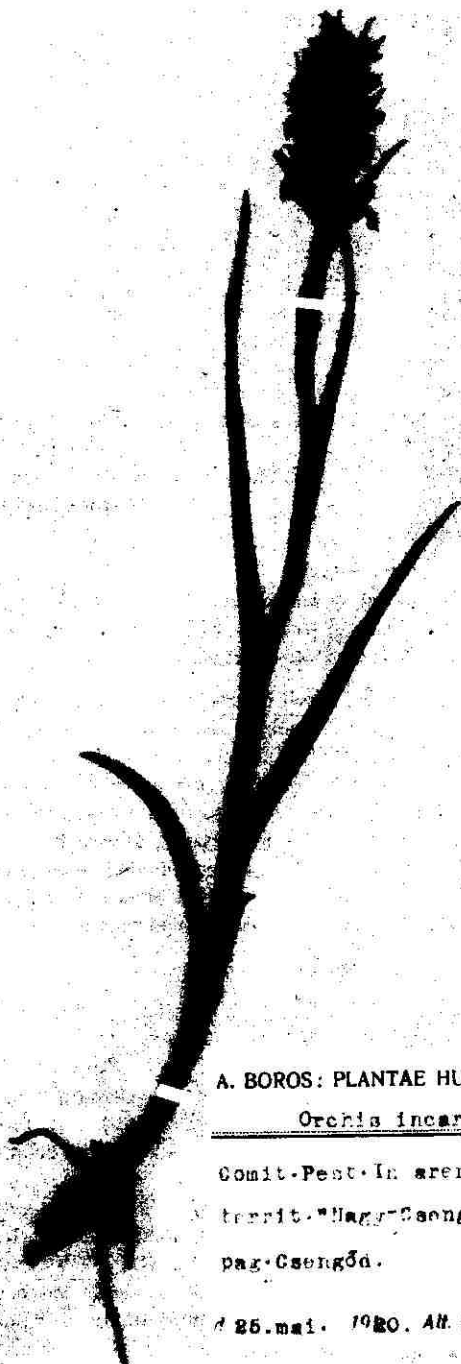
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SIMON T. (1977b): A Zempléni-hegység északi részének védendő flóra különlegességeiről. - Abstracta Botanica 5: 57-63.

SOÓ R. (1973): A magyar flóra és vegetáció rendszertani-növényföldrajzi kézikönyve V. - Akadémiai Kiadó, Budapest. pp.: 724.



A. BOROS: PLANTAE HUNGARIAE EXSICCATAE.

Orchis incarnata L.

Comit-Pest. In arenosis humidis
territ. "Hagy-Csengődi erdő" pr.
pag. Csengőd.

d. 25. mai. 1920. Alt. s. m. met. ca: 100

Dactylorhiza pulchella (Druce) Averyanov [Csengőd, 1920.05.25.]
leg.: Á. Boros, det.: A. Molnár V. Herbarium of Debrecen University (DE)