

1996). One locality was recently discovered in Poland, in the Little Beskid Mts. (Hrobacza Meadow; Tlačka, 2015), and more recently in Macedonia, in the Plačkovica Mts. (Laki; Melovski, 2016).

It is highly probable that further localities of the hybrid will be discovered in Romania and Poland, as well as in the neighbouring countries of Slovakia, Ukraine and Hungary, in sites where *Dryopteris affinis* subsp. *jessenii* exists. The range of the hybrid overlaps in the Romanian Carpathians with *D. × complexa* nothosubsp. *complexa*. The ranges of other hybrids of *D. × complexa* are disjunct and include western and southern Europe and western Asia (Jeßen, 1991; Fraser-Jenkins, 2007).

TYPIFICATION AND DESCRIPTION

***Dryopteris × complexa* Fraser-Jenk. nothosubsp. *transsilvanica* Tlačka, S.Jess., A.Rostański & Rojek, nothosubsp. nov. *Dryopteris affinis* (Lowe) Fraser-Jenk. subsp. *jessenii* (Fraser-Jenk.) Fraser-Jenk. × *Dryopteris filix-mas* (L.) Schott**

Holotypus: SJ-1310, leg. S. Jeßen 05.08.1985, cult. in Chemnitz, 14.10.2017 (JE). Isotype: SJ-1310, leg. S. Jeßen 05.08.1985, cult. in Chemnitz, 28.06.2016 and 14.10.2017 (Herbarium S. Jeßen). Paratypes: SJ-1303: Romania, Northern Făgăraş, Şerbota valley SSO Porumbacu de Sus, ca. 580 m a.s.l., leg. S. Jeßen 01.08.1985; SJ-1303, cult., 28.06.2016

Locus: first discovered in 1985 in the Romanian Carpathians in the Făgăraş Mountains, then in the Polish Western Carpathians, in the Little Beskid Mountains in

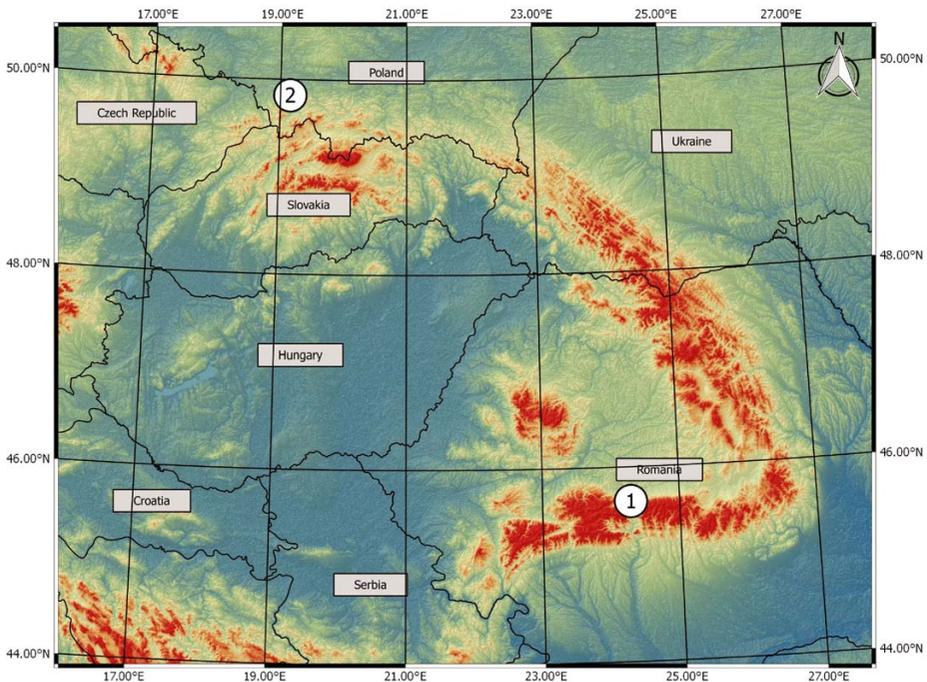


Figure 8. Localities of *Dryopteris × complexa* nothosubsp. *transsilvanica* in the Carpathians. **1:** Romania, Northern Făgăraş Mts., Şerbota valley; **2:** Poland, The Little Beskid Mts., Hrobacza Meadow.

2015. The localities are more than 600 km apart (see figure 8) Romania, Southern Carpathians, Northern Făgăraș Mountains: Șerbota valley SSO Porumbacu de Sus, c. 750 m a.s.l.

1 – Romania, Southern Carpathians, Northern Făgăraș Mountains, Șerbota valley SSO from Porumbacu de Sus, in the beech forest 2 individuals together with *Dryopteris affinis* subsp. *affinis* var. *disjuncta*, *D. affinis* subsp. *jessenii*, *D. borrieri* and *D. filix-mas*: 1. c. 750 m a.s.l., 45.6518°N, 24.5180°E, leg. S. Jeßen 05.08.1985 (SJ-1310), $n=49-53$ II + 58-66 I, tetraploid, det. H. Rasbach 02.09.1987; $2n=ca.$ 164, tetraploid, det. H. Rasbach 29.09.1987 (Jeßen, 1991); 2. c. 580 m a.s.l., 45.6699°N, 24.5145°E, leg. S. Jeßen 01.08.1985 (SJ-1303).

2 – Poland, Silesian Voivodship, Czernichów Commune, Międzybrodzie Bialskie – the Little Żarnówka, the Little Beskid, Hrobacza Meadow, E slope, 580-620 m a.s.l., in the beech forest 2 individuals together with *Dryopteris affinis* subsp. *jessenii*, *D. borrieri*, *D. cambrensis* subsp. *insubrica*, *D. ×convoluta* nothosubsp. *convoluta* and *D. filix-mas*, 49.8216°N, 19.1752°E and 49.8215°N, 19.1731°E, leg. D. Tlałka 2015; $2n=164$, tetraploid.

Derivation: After the place of discovery, the Southern Carpathians, which are also called “Transylvanian Alps”.

Descriptio:

Planta hybrida, media inter parentes, scilicet *Dryopteris affinis* subsp. *jessenii* et *Dryopteris filix-mas*; frondes usque ad 120 cm, rarius ad 140 cm longae; lamina pinnata ad bipinnata, pinnae longissimae evidenter 1–3 mm stipitatae, petioli pinnarum maculati violacei; pinnulae saepe ut in parallelogrammi formatae, in apice truncatae aut rotundatae cum dentibus robustis, acutis; sporae abortivae; planta tetraploidea, chromosomatum numerus = 164, meiosi bivalentibus 49–53, univalentibus 58–66.

Description:

Rhizome single, in older plants multi-headed, with ± funnel-shaped fronds; Leaf-blade mostly dull, dark green, lanceolate to broadly lanceolate, much narrowed towards the base, glandless, up to 120 (–140) cm long and up to 25 (–35) cm wide; Petiole 1/4–1/3 of the frond length; Scales on petiole to about 20 × 5 mm, ± glossy, light to dark brown, often with a chestnut to black-brown zone at the base; Scales on mid rachis narrow, oval-lanceolate, often chestnut to dark brown towards base; Scales of the pinnae narrow-oval to lanceolate, mostly light brown; Basisopic pinnae short, up to c. 7 × 3 cm; clearly stalked 2–3 mm; lowest basisopic pinnule equal or not much longer than the acroscopic pinnule opposite, inner side with 1–2 lobes, tip with truncated end and strong, pointed teeth directed apically; Medium pinnae petiolate 1–3 mm, up to 17 cm × 2–3 cm with 20–30 pinnule pairs; pinnae bright green, rarely 1–3 mm in length, partly dark purple; Pinnule segments of the middle pinnae crowded, the base almost pedunculate, partially covering the rachis; up to about 15 × 5 mm, 2–3 times longer than wide, broadly sessile, slightly narrowed at the top or narrowly rectangular (up to almost rhombic), slightly lobed or serrated at the edge, at the end mostly rounded, rarely a little trimmed, with strong, pointed teeth directed apically; Sori 1.3–1.6 mm in diameter; Indusium in the immature sorus hemispherical, arched, partly with margin turned outwards, shrinking after spore maturation, but mostly lasting, sometimes tearing from the margin, glandless; Usually 50–80 % failed sporangia, these whitish or yellowish and releasing no spores; Spores >90 % aborted, heterogeneous in size and shape, crumbly, black-brown to brown, occasionally large, spherical; Guard cell length 61.9 ± 5 μm. Cytology: $n = 2n = 164$, tetraploid, spores irregular; $n = 49-53$ bivalent and 58–66 univalent (Jeßen, 1991).