

***DRYOPTERIS CARPATICA* SPEC. NOV. – A TETRAPLOID  
SPECIES OF THE *DRYOPTERIS AFFINIS* AGGREGATE  
(*DRYOPTERIDACEAE*, *POLYPODIOPSIDA*) FROM THE  
SOUTHERN CARPATHIANS**

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**ABSTRACT**

A new tetraploid species of the *Dryopteris affinis* aggregate is described from the Romanian Carpathians. Results of flow cytometric, cytological and molecular genetic investigations are discussed.

**ZUSAMMENFASSUNG**

Aus den rumänischen Südkarpaten wird eine neue, tetraploide Art des *Dryopteris affinis*-Aggregats beschrieben. Die Resultate durchflusszytometrischer, karyologischer und molekulargenetischer Untersuchungen werden diskutiert.

**INTRODUCTION**

Representatives of the *Dryopteris affinis* aggregate (Scaly Male Fern) are not rare in the mountain forests of the Southern Carpathians and the Făgăraș Mountains of Romania, and are often more common there than the widespread *D. filix-mas* (L.) Schott. The diversity of *D. affinis* s.l. in this area was already recognised by Jeßen (1985, 1991), and included *D. affinis* (Lowe) Fraser-Jenk. subsp. *affinis* var. *disjuncta* (Fomin) Fraser-Jenk. and *D. borrieri* (Newman) Newman ex Oberh. & Tavel., both widespread in Europe, and further specimens which could not be assigned to any previously described taxa. One such taxon, *D. affinis* subsp. *borrieri* var. *splendens* in Jeßen (1985) and provisionally *D. affinis* subsp. *affinis* var. *ined.* in Jeßen (1991), has meanwhile been described as *D. affinis* subsp. *jessenii* Fraser-Jenk. (Widén et al., 1996, Fraser-Jenkins, 2007). A further taxon from the Făgăraș Mountains was initially thought to be *D. schorapanensis* Askerov (syn. *D. affinis* subsp. *persica* Fraser-Jenk.) known from the Caucasus region, northeastern Anatolia and Iran (Jeßen, 1991). This taxon from the Făgăraș Mountains differs from *D. filix-mas* in having highly hemispherical indusia before spore maturity, more scaling of the petiole, and the suggestive violet-black attachment sites of the pinnules to the rachis. Thus, it is very similar to the hybrid *D. × complexa* Fraser-Jenk. nothosubsp. *complexa* (*D. affinis* subsp. *affinis* × *D. filix-mas*), which has also been recorded in this area (Jeßen, 1991). However, as the frequency of individuals in nature shows and culture experiments confirm, the spores are predominantly formed normally and a high proportion of them are capable of germination. The taxon occurs in large