

## THE RED LIST OF THE THREATENED PLANTS FROM RÂIOSU AND BUDA MOUNTAINS, FĂGĂRAȘ MASSIF

DANIELA ILEANA STANCU

Argeș County Museum, Armand Călinescu Street, no. 44, 110047, Pitești, Argeș, Romania,  
e-mail: stancuileana@yahoo.com

**ABSTRACT.** In the paper we presented vulnerable species, almost threatened species of plants from Râiosu and Buda Mountains, Făgăraș Massif. Not surprisingly, the largest families contain the largest number of threatened species. This fact requires an efficient management of the two mountains where they vegetate.

**Key words:** vulnerable species, threatened species, Râiosu and Buda Mountains.

**REZUMAT.** Lista Roșie a plantelor amenințate din Munții Râiosu și Buda, Masivul Făgăraș. În lucrare sunt prezentate speciile vulnerabile, aproape amenințate, din munții Râiosu și Buda, Masivul Făgăraș. Deloc surprinzător, familiile cele mai mari conțin cel mai mare număr de specii amenințate. Acest fapt necesită un management eficient al celor doi munți unde acestea vegetează.

**Cuvinte cheie:** specii vulnerabile, specii amenințate, munții Râiosu și Buda.

### INTRODUCTION

In the Red List statistic are given for each family the number of species list as threatened. A total of 23 families of vascular plants contain vulnerable or threatened species. Not surprisingly, the largest families contain the largest number of threatened species. This fact requires an efficient management of the two mountains where they vegetate. Red list species was distributed by the following categories: extinct, endangered, vulnerable, rare, critically endangered, endemic to Romania.

### MATERIALS AND METHODS

The Red List considered for this analysis is: Boșcaiu, Coldea and Horean (Boșcaiu et al., 1994), Dihoru and Negrean (Dihoru & Negrean 2009), Oltean (Oltean et al., 1994). Endemic taxa are considered according to Ciocârlan (Ciocârlan, 2009). The IUCN categories used in this paper are:

Endangered (**E**) - Taxa in danger of extinction whose numbers have been reduced to a critical level or whose habitats have been so drastically reduced that they are deemed to be in immediate danger of extinction.

Vulnerable (**V**) - Taxa that is not Criticcaly Endangered or Endangered but is facing a high risk of extinction in the wild in the medium-term future.

Rare (**R**) - Taxa with small world population that are not at present Endangered or Vulnerable, but are at risk.

Critically Endangered (**CR**) - Taxa that is facing an extremely high risk of extinction in the wild in the immediate future.

## RESULTS AND DISCUSSION

In the Râiosu and Buda Monuntains where identified 129 rare, vulnerable or endangered taxa which were presented in the table 1 (Stancu, 2005).

Table 1 – The Red List of the threatened plants from Râiosu and Buda Mountains.

No.	Taxa	The Red List (Oltean et al., 1994)	Endemic taxa
1.	<i>Achillea schurii</i> Schultz-Bip	E	End*
2.	<i>Aconitum moldavicum</i> Hacq. ex Reichenb.	R	End*
3.	<i>Alopecurus laguriformis</i> Schur	E	End*
4.	<i>Allysoides graeca</i> (Reut.) Jav.	E	
5.	<i>Androsace obtusifolia</i> All.	R	
6.	<i>Androsace villosa</i> L. ssp. <i>arachnoidea</i> (Scott., Nym. & Kotschy) Nym.	R	End*
7.	<i>Angelica archangelica</i> L.	V	
8.	<i>Aquilegia nigricans</i> Baumg.	V	End*
9.	<i>Aquilegia transsilvanica</i> Schur	R	End**
10.	<i>Astragalus alpinus</i> L.	R	
11.	<i>Astragalus australis</i> (L.) Lam.	R	End**
12.	<i>Athamanta turbith</i> (L.) Brot. ssp. <i>hungarica</i> (Borb.) Tutin	R	End**
13.	<i>Bromus barcensis</i> Simonkai	R	
14.	<i>Campanula carpatica</i> Jacq.	R	End**
15.	<i>Campanula kladniana</i> (Schur) Witasek	R	
16.	<i>Campanula transsilvanica</i> Schur	V/R	
17.	<i>Cardamine resedifolia</i> L.	R	
18.	<i>Cardaminopsis neglecta</i> (Schultes) Hayek	R	
19.	<i>Carduus kernerii</i> Simonkai ssp. <i>kernerii</i>	R	End***
20.	<i>Carex fuliginosa</i> Schkuhr	R	
21.	<i>Centaurea atropurpurea</i> Waldst. & Kit.	R	
22.	<i>Centaurea kotschyana</i> Heuffel	E	End***
23.	<i>Centaurea melanocalathia</i> Borb.	R	

Continues.

Table 1 - Continuation.

No.	Taxa	The Red List (Oltean et al., 1994)	Endemic taxa
24.	<i>Centaurea pinnatifida</i> Schur	E	End*
25.	<i>Centaurea nervosa</i> Willd.	R	
26.	<i>Cerastium arvense</i> L. ssp. <i>lerchenfeldianum</i> (Schur) Ascherson & Graebner	R	
27.	<i>Cerastium transsilvanicum</i> Schur	R	End*
28.	<i>Cerintho glabra</i> Miller	R	
29.	<i>Chrysanthemum alpinum</i> L.	R	
30.	<i>Chrysosplenium alpinum</i> L.	R	
31.	<i>Coeloglossum viride</i> (L.) Hartm.	R	
32.	<i>Crepis conyzifolia</i> (Gouan) A. Kerner	R	
33.	<i>Dactylorhiza cordigera</i> (Fries) Soó	R	
34.	<i>Dactylorhiza incarnata</i> (L.) Soó	R	
35.	<i>Dactylorhiza maculata</i> (L.) Soó	R	
36.	<i>Dianthus barbatus</i> L. ssp. <i>compactus</i> Kit.	R	
37.	<i>Dianthus glacialis</i> Haenke ssp. <i>glacialis</i>	R	End*
38.	<i>Dianthus glacialis</i> Haenke ssp. <i>gelidus</i> (Schott, Nym. & Kotschy) Nym.	R	End*
39.	<i>Dianthus henteri</i> Heuff. ex Griseb. et Schenk	R	End**
40.	<i>Dianthus spiculifolius</i> Schur	R	End*
41.	<i>Doronicum carpaticum</i> (Griseb. & Schenk) Nym.	R	End***
42.	<i>Epilobium alpestre</i> (Jacq.) Krockner	R	
43.	<i>Epilobium alsinifolium</i> Vill.	R	
44.	<i>Epilobium anagallidifolium</i> Lam.	R	
45.	<i>Epilobium nutans</i> F.W.Schmidt	R	
46.	<i>Epipactis atrorubens</i> (Hoffm.) Besser	R	
47.	<i>Epipactis helleborine</i> (L.) Crantz.	R	
48.	<i>Epipactis microphylla</i> (Ehrh.) Swartz.	R	
49.	<i>Erigeron nanus</i> Schur	V/R	End*
50.	<i>Erigeron uniflorus</i> L.	R	
51.	<i>Eritrichium nanum</i> (L.) Schrad. ssp. <i>jankae</i> (Simk.) Jáv.	R	End*
52.	<i>Erysimum witmannii</i> Zawadzki ssp. <i>transsilvanicum</i> (Scur) P.W.Ball	R	End**
53.	<i>Festuca amethystina</i> L.	R	
54.	<i>Festuca bucegiensis</i> Markgraf-Dannenberg	R	End*
55.	<i>Festuca versicolor</i> Tausch.	R	
56.	<i>Galium kitaibelianum</i> Schultes & Schultes	R	
57.	<i>Galium lucidum</i> All.	V/R	
58.	<i>Gentiana acaulis</i> L.	R	
59.	<i>Gentiana brachyphylla</i> Vill.	R	
60.	<i>Gentiana lutea</i> L.	E	

Continues.

Table 1 - Continuation.

No.	Taxa	The Red List (Oltean et al., 1994)	Endemic taxa
61.	<i>Gentiana punctata</i> L.	R	
62.	<i>Geranium sylvaticum</i> L. ssp. <i>caeruleatum</i> (Schur) D.a.Web.	R	
63.	<i>Geum reptans</i> L.	R	
64.	<i>Gymnadenia conopsea</i> (L.) R. Br.	R	
65.	<i>Gypsophilla petraea</i> (Baumg.) Reichenb.	R	End***
66.	<i>Hedysarum hedysaroides</i> (L.) Sch. et Tell.	R	
67.	<i>Hesperis moniliformis</i> Schur	R	End*
68.	<i>Hornungia petraea</i> (L.) Reichenb.	R	
69.	<i>Hutchinsia alpina</i> (L.) R. Br. ssp. <i>brevicaulis</i> (Hoppe)	R	
70.	<i>Juncus filiformis</i> L.	R	
71.	<i>Juncus triglumis</i> L.	R	
72.	<i>Leontodon croceus</i> Haenke ssp. <i>ri-laënsis</i> (Hayek) P.D.Sell	R	
73.	<i>Leontopodium alpinum</i> Cass.	E	
74.	<i>Leucanthemum waldsteinii</i> (Schulze-Bip.) Pouzar	R	End**
75.	<i>Ligularia glauca</i> (L.) Hoffm.	R	
76.	<i>Ligusticum mutellinoides</i> (Crantz) Vill.	R	
77.	<i>Linaria alpina</i> (L.) Miller	R	
78.	<i>Lloydia serotina</i> (L.) Rehb.	R	
79.	<i>Loiseleuria procumbens</i> (L.) Desv.	R	
80.	<i>Monotropa hypopitys</i> L.	R	
81.	<i>Neottia nidus-avis</i> (L.) L.C.M. Richard	R	
82.	<i>Nigritella nigra</i> (L.) Reichenb.	E	
83.	<i>Onobrychis transsylvanica</i> Simk.	R	End*
84.	<i>Orchis mascula</i> L. ssp. <i>signifera</i> (Vest) Soó	R	
85.	<i>Oxyria digyna</i> (L.) Hill.	R	
86.	<i>Oxytropis halleri</i> Bunge.	R	
87.	<i>Papaver alpinum</i> L. ssp. <i>corona-sancti-stephani</i> (Zapal) Borza	R	End*
88.	<i>Phyteuma tetramerum</i> Schur	R	End*
89.	<i>Pinguicula alpina</i> L.	R	
90.	<i>Pinguicula vulgaris</i> L.	R	
91.	<i>Pinus cembra</i> L.	R	
92.	<i>Plantago gentianoides</i> Sibith. et Sm.	R	
93.	<i>Platanthera bifolia</i> (L.) L.C.M. Richard	R	
94.	<i>Poa cenisia</i> All. ssp. <i>contracta</i> Nyar.	R	
95.	<i>Poa granitica</i> Br.-Bl. ssp. <i>disparilis</i> Nyar.	R	End*
96.	<i>Poa laxa</i> Haenke	R	
97.	<i>Primula halleri</i> J.F. Gmelin	R	
98.	<i>Pseudorchis albida</i> (L.) A. & E. Löve	R	

Continues.

Table 1 - Continuation.

No.	Taxa	The Red List (Oltean et al., 1994)	Endemic taxa
99.	<i>Ranunculus alpestris</i> L.	R	
100.	<i>Ranunculus carpaticus</i> Herb.	R	End*
101.	<i>Ranunculus crenatus</i> W. & K.	R	
102.	<i>Ranunculus pseudomontanus</i> Schur	R	
103.	<i>Rhododendron myrtifolium</i> Schott & Kotschy	V/R	
104.	<i>Salix alpina</i> Scop.	CR	
105.	<i>Salix retusa</i> L. ssp. <i>kitaibeliana</i> Willd.	R	
106.	<i>Saxifraga oppositifolia</i> L.	R	
107.	<i>Saxifraga pedemontana</i> All. ssp. <i>cymosa</i> (W.&K.) Engler	R	
108.	<i>Saxifraga retusa</i> Gouan	R	
109.	<i>Scorzonera purpurea</i> L. ssp. <i>rosea</i> Nyman	R	
110.	<i>Scrophularia heterophylla</i> Willd. ssp. <i>laciniata</i> (W.&K.) Maire et Petitmengin	R	
111.	<i>Sesleria bielzii</i> Schur	R	End***
112.	<i>Silene dinarica</i> Spr.	R	
113.	<i>Silene lerchenfeldiana</i> Baumg.	R	
114.	<i>Silene nutans</i> L. ssp. <i>dubia</i> (Herb.) Zapal.	R	End**
115.	<i>Soldanella pusilla</i> Baumg.	R	
116.	<i>Stellaria palustris</i> Ehrh. In Retz.	R	
117.	<i>Streptopus amplexifolius</i> (L.) DC.	R	
118.	<i>Symphandra wanneri</i> (Rochel) Heuffel	R	
119.	<i>Thlaspi dacicum</i> Heuffel	R	End***
120.	<i>Thymus pulcherrimus</i> Schur	R	End*
121.	<i>Trisetum fuscum</i> (Kit. Et Schultes) Dom.	R	
122.	<i>Trollius europaeus</i> L.	R	
123.	<i>Vaccinium gaultherioides</i> Bigel.	R	
124.	<i>Veronica alpina</i> L.	R	
125.	<i>Veronica aphylla</i> L.	R	
126.	<i>Veronica bachofenii</i> Heuffel	R	
127.	<i>Veronica baumgartenii</i> R. & S.	R	End**
128.	<i>Viola alpina</i> Jacq.	R	
129.	<i>Viola dacica</i> Borb.	R	End***

**Legend:** End\* - restricted range endemic in Romania; End\*\* - Carpathian endemic; End\*\*\* - Carpatho Balkan endemic.

## CONCLUSIONS

The table shows that there are: 8 - Endangered taxa 1 - Critically Endangered taxa, 4 - Vulnerable/rare taxa, 2 - Vulnerable taxa and 114 - Rare taxa. The following families have the highest percentage in threatened taxa: Asteraceae -

15, Orchidaceae - 12, Cariophyllaceae - 11, Poaceae - 9, Primulaceae - 6, Ranunculaceae - 5.

#### REFERENCES

- BOȘCAIU N., COLDEA GH., HOREAN C., 1994 - *Lista roșie a plantelor vasculare dispărute, periclitare, vulnerabile și rare din România*. Ocrotirea Nat. Med. Înconj., București. **38 (1)**: p. 45-56.
- CIOCÂRLAN V., 2009 - *Flora ilustrată a României*. Ed. Ceres, București; p. 1139.
- DIHORU GH., NEGREAN G., 2009 - *Cartea Roșie a plantelor vasculare din România*. Ed. Academiei Române, București; p. 630.
- OLTEAN M., NEGREAN G., POPESCU A., ROMAN N., DIHORU G., SANDA V., MIHĂILESCU SIMONA, 1994. *Lista roșie a plantelor superioare din România*. Academia Română, Institutul de Biologie. București. **1**: p. 52.
- STANCU DANIELA ILEANA, 2005 - *Flora și vegetația munților Râiosu și Buda, masivul Făgăraș*. Ed. Universității din Pitești. Pitești. p. 226.