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Chavdar GUSSEV

Cvetomir DENCHEV

Jordanka KOEVA

Dolja PAVLOVA

Dimitar DIMITROV

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New Records of Vascular Plants for Northern Mt. Strandzha (SE Bulgaria)

Chavdar GUSSEV, Cvetomir DENCHEV

Institute of Botany, Bulg. Acad. of Sciences, 23 Acad. G. Bonchev Str., BG-1113 Sofia-BULGARIA

Jordanka KOEVA, Dolja PAVLOVA, Dimitar DIMITROV

Sofia University, Department of Botany, 8 D. Tsankov Blv., BG-1421 Sofia-BULGARIA

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Abstract: This study comprises new chorological data of 54 Bulgarian vascular plants. The occurrence of *Glyceria nemoralis* (Uechtr.) Uechtr. & Koern. in Bulgaria is confirmed. Thirty-four taxa are new for the Bulgarian region of Mt. Strandzha. The occurrence of 20 species in the Bulgarian region of Mt. Strandzha is confirmed. In addition, the distribution of *Knautia degenii* Borbás ex Form. in Bulgaria is briefly discussed.

Key Words: Flora of Bulgaria, vascular plants, Strandzha Mt.

Damarlı Bitkilerden Kuzey Istranca Dağları (GD. Bulgaristan) İçin Yeni Kayıtlar

Özet: Bu çalışma, Bulgaristan'ın damarlı bitkilerinden 54 için yeni korolojik kayıtları kapsamaktadır. *Glyceria nemoralis* (Uechtr.) Uechtr. & Koern.'in Bulgaristan'daki varlığı teyit edildi. 34 takson, Istranca Dağları'nın Bulgaristan'daki kesimi için yeni kayıttır. 20 türün bu kesimdeki varlığı da teyit edildi. Ayrıca, *Knautia degenii* Borbás ex Form.'nin Bulgaristan'daki yayılışı kısaca tartışılmıştır.

Anahtar Sözcükler: Bulgaristan Florası, damarlı bitkiler, Istranca Dağları

Introduction

In northern Mt. Strandzha (SE Bulgaria) a new National Park, "Strandzha", has been established with an area of 116 136 ha. This is the largest Bulgarian National Park and includes 26 protected territories -5 reserves, 8 protected areas and 13 natural landmarks. The unique floristic composition of Mt. Strandzha has long been of interest to Bulgarian botanists but a complete floristic inventory does not yet exist. However, there are some papers on the vegetation [1, 2, 3] and phytogeography [2, 3, 4, 5] of the region, together with some floristic records [6, 7, 8, 9].

Materials and Methods

During field studies conducted in 1994-1995 in the "Vitanovo" reserve and some other protected territories in the Mt. Strandzha area (Figure 1) 34 previously unreported taxa for the Bulgarian area of the mountain were found. These taxa are marked with asterisks in the text. The occurrence of *Glyceria nemoralis* (Uechtr.) Uechtr. & Koern. in the Mt. Strandzha area confirms its distribution in Bulgaria [10]. New localities were found for 20 species of vascular plants. These species have been

included in some studies of this floristic region but in some other recent works they have been omitted or considered incorrectly cited or incorrectly determined species [10, 11].

The localities, given by numbers in the list below and shown on the map (Figure 1), area as follows:

Bulgaria: m. Strandzha:

1. prope pagum Braschljan, alt. 260m.
2. in reservato Vitanovo, 290-500 m.
 - 2a. idem, in valle rivuli Goljam Metschy Dol.
 - 2b. idem, in valle rivuli Malak Metschy Dol.
 - 2c. idem, in loco Makjovolova Laka.
 - 2d. idem, in loco Vergievi Nivi.
 - 2e. idem, in loco Kiselitzata.
 - 2f. idem, in loco Rajtschov Dol.
 - 2g. idem, in loco Kamenski Pazlak.
 - 2h. idem, in loco Georgievi Nivi.
 - 2i. idem, in loco Vaglishtarnitza.
 - 2j. idem, in loco Ostrata Tschuka.

3. in fageto (*Fagus orientalis* Lipsky) infra cacuminem Gradishte, supra urbem Malko Tarnovo, alt. 650-700 m.
4. prope pagum Slivarovo, ad ripam sinistram fl. Rezovska Reka, solo silicioso.
5. in reservato Lopushna (Uzunbudžak), ad ripam sinistram fl. Rezovska Reka.
6. supra pagum Rezovo
7. pagus Kosti.
 - 7a. supra pagum Kosti, in loco Pirena.
 - 7b. supra pagum Kosti, in loco Makjovtzi
 - 7c. supra pagum Kosti, in reservato Silkosija.

- 7d. inter pagos Brodilovo et Kosti.
8. supra pagum Kosti, in loco Marina Rjaka.
9. ad pagum Gramatikovo, in loco Katschulski Dol.
10. ad pagum Stoilovo
 - 10a. idem, in loco Petrova Niva, solo calcareo.
 - 10b. inter urb. Malko Tarnovo et pag. Stoilovo, in loco Gabraka, solo calc.

A map UTM-Grid, with squares of 10x10 km, has been used to indicate the origin of the main collections (numbers 1 to 10) cited in this paper. The materials listed below are kept in the herbarium of the University of Sofia (SO).

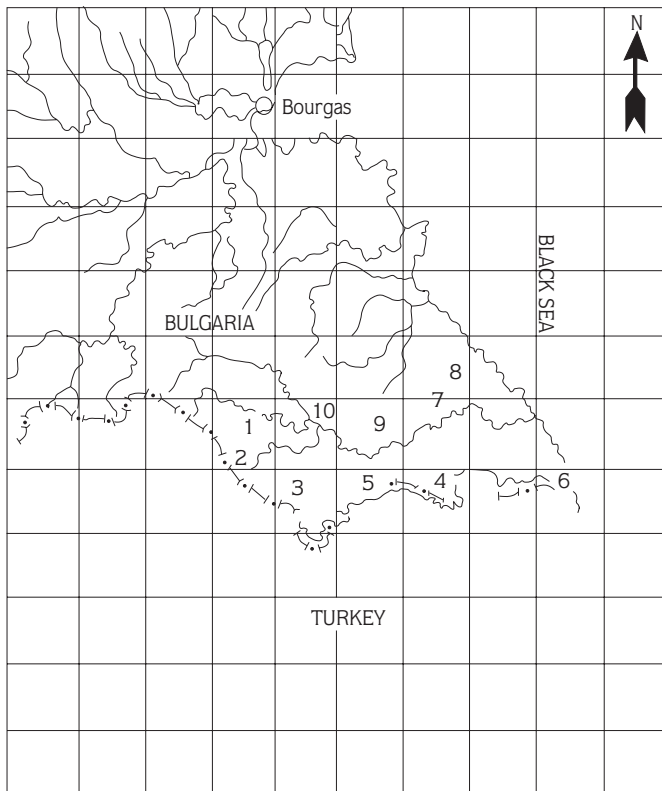


Figure 1. Collection areas. 1. Near the village of Brashlyan [NG 35]; 2. Vitanovo Reserve [NG 35]; 3. Peak of Gradishte above the town of Malko Tarnovo [NG 44]; 4. Near the village of Slivarovo [NG 54]; 5. Lopoushna (Ouzounboudzhak) Reserve [NG 64]; 6. Above the village of Rezovo [NG 35]; 7. Near the village of Kosti [NG 65]; 8. Protected locality, Marina Ryaka [NG 66]; 9. Near the village of Gramatikovo [NG 55]; 10. Near the village of Stoilovo [NG 45].

List of Plants

EQUISETACEAE

* *Equisetum hyemale* L.

(1), 12.7.1974, SO 69 439.

POLYGONACEAE

* *Rumex tenuifolius* (Wallr.) A. Löve

(2a), 20.4.1995, SO 97 169.

* *R. hydrolapatum* Huds.

(2c), 13.6.1995, SO 98 229; (2i), 15.6.1995, SO 98 254.

* *Petrorhagia saxifraga* (L.) Link

(2g), 3.8.1994, SO 98 255.

Silene compacta Fisch.

(3), 2.8.1994, SO 96 915; (4), 17.7.1934, SO 20 462. Its distribution in N. Mt. Strandzha is confirmed [6].

Dianthus pallens Sibth. & Sm. var. *pallens*

(1), 3.8.1994, SO 97 734. Its distribution in N. Mt. Strandzha is confirmed [6].

Velezia rigida L.

(1), 3.8.1994, SO 96 767; (6), 26.7.1933, SO 22 530. Its distribution in N. Mt. Strandzha is confirmed [6].

BRASSICACEAE

* *Alyssum strigosum* Banks & Sol. subsp. *strigosum*

(2g), 14.6.1995, SO 98 221.

* *Rorippa sylvestris* (L.) Besser subsp. *kernerii* (Menyh) Soó

(2g), 14.6.1995, SO 98 262; (2i), 18.4.1995, SO 98 231.

HYPERICACEAE

Hypericum montbretii Spach

(2f), 3.8.1994, SO 98 224; (7a), 23.5.1994, SO 97 173; (7d), 22.7.1934, SO 51 192; (9), 6.7.1955, SO 51 216; (10a), 15.7.1934, SO 51 189. Its distribution in N Mt. Strandzha is confirmed [6].

FABACEAE

* *Coronilla scorpioides* L. Koch

(2g), 20.4.1995, SO 98 222.

Ornithopus compressus L.

(1), 17.7.1936, SO 43 911; (2e), 14.6.1995, SO; (6), 12.4.1934, SO 43 912; (6), 26.7.1933, SO 43 909 & 43 910; (7a), 23.5.1994, SO 97 170; (7b), 23.5.1994, SO 96 756; (7c), 23.5.1994, SO 96 789. Its distribution in N. Mt. Strandzha is confirmed [6].

* *Medicago rigidula* L. var. *glandulosa* (Podp.) Ko .

(2g), 14.6.1995, SO 98 233.

Onobrychis caput-galli (L.) Lam.

(2g), 14.6.1995, SO 98 263; (5), 25.5.1994, SO 96 761 & 96 762. Its distribution in N. Mt. Strandzha is confirmed [6].

* *Trifolium diffusum* Ehrh.

(2g), 14.6.1995, SO 98 227.

* *T. striatum* L. subsp. *tenuiflorum* (Ten.) Ko .

(2c), 13.6.1995, SO 98 226.

* *T. strictum* L.

(2e), 14.6.1995, SO 98 278.

Trigonella gladiata Stev. ex Bieb.

(2g), 19.4.1995, SO 98 223; (10a), 24.5.1994, SO 97 131. Its distribution in N. Mt. Strandzha is confirmed [6].

LINACEAE

* *Linum hologynum* Reichenb.

(2g), 14.6.1995, SO 98 234.

VIOLACEAE

* *Viola sieheana* Becker

(2h), 19.4.1995, SO 98 236.

APIACEAE

* *Smyrniium perfoliatum* L.

(2b), 23.5.1994, SO 97 132.

* *Orlaya daucooides* (L.) Greuter

(2d), 13.6.1995, SO; (2e), 14.6.1995, SO 98 238; (2g), 14.6.1995, SO 98 237.

Pimpinella peregrina L.

(2g), 14.6.1995, SO 98 186. Its distribution in N. Mt. Strandzha is confirmed [2].

APOCYNACEAE

Vinca herbacea Waldst. & Kit.

(2g), 19.4.1995, SO 98 225. Its distribution in N. Mt. Strandzha is confirmed [6].

EUPHORBIACEAE

Mercurialis perennis L.

(2), SO 98 235. Its distribution in N. Mt. Strandzha is confirmed [2, 6].

LAMIACEAE

* *Thymus longedentatus* (Deg. & Urum.) Ronn.

(2e), 14.6.1995, SO 98 241; (2g), 14.6.1995.

* *Origanum vulgare* L. subsp. *hirtum* (Link) Ietswaart

(2a), 3.8.1994, SO 97 175.

SCROPHULARIACEAE

Digitalis viridiflora Lindl.

(2i), 15.5.1995, SO 98 242; (3), 2.8.1994, SO 96 914. Its distribution in N. Mt. Strandzha is confirmed [6].

CAPRIFOLIACEAE

Lonicera etrusca G. Santi

(2g), 14.6.1995, SO 98 243. Its distribution in N. Mt. Strandzha is confirmed [4, 6].

DIPSACACEAE

Knautia degenii Borbás ex Form.

(2c), 13.6.1995, SO 98 265; (2i), 15.5.1995, SO 98 266. This species has previously been recorded from Mt. Strandzha and the Thracian Lowlands [12; and as *K. orientalis* L. var. *parviflora* Stoj. in 13, 14]. In some recent studies, *K. degenii* has been omitted in terms of distribution in Bulgaria [15, 10, 11, 16]. According to Ehrendorfer [15] and Matthews [16] localities of *K. degenii* exist only in European Turkey (around Istanbul) and N.W. Anatolia. Kral [17], on the basis of Ehrendorfer's work [15], reported *K. degenii* as new to the Bulgarian flora (from the South Black Sea coast and Toundzha Hill County). This

new locality of *K. degenii* confirms its distribution in North Mt. Strandzha.

ASTERACEAE

* *Hypochoeris glabra* L.

(7a), 23.5.1994, SO 97 180.

* *Leontodon cichoraceus* (Ten.) Sanguin

(5), 24.5.1994, SO 97 181; (8), 23.5.1994, SO 98 267.

Scorzonera mollis Bieb. subsp. *mollis*

(2g), 14.6.1995, SO 98 245. Its distribution in N. Mt. Strandzha is confirmed [4, 6].

Tragopogon dubius Scop.

(2g), 14.6.1995, SO 98 246. Its distribution in N. Mt. Strandzha is confirmed [6].

Xeranthemum cylindraceum Sibth & Sm.

(2g), 14.6.1995, SO 98 247. Its distribution in N. Mt. Strandzha is confirmed [14].

* *Cirsium heterotrychum* Panč

(10b), 15.6.1995.

Carlina corymbosa L. subsp. *corymbosa*

(2g), 14.6.1995, SO 98 275. Its distribution in N. Mt. Strandzha is confirmed [6].

Centaurea rutifolia Sibth & Sm. subsp. *jurineifolia* (Boiss.) Nym.

(2f), 3.8.1994, SO 97 179.

Crepis foetida L. subsp. *commutata* (Spreng.) Babck.

(2g), 15.6.1995, SO 98 248. Its distribution in N. Mt. Strandzha is confirmed [6, 7, 8 as *Rodigia commutata* Spreng. var. *bulgarica* (Velen.) Stoj. & Stef.]

POACEAE

* *Glyceria nemoralis* (Uechtr.) Uechtr. & Koern.

(2i), 18.4.1995, SO 153 095. According to Kožuharov (Ed.) [10], the distribution of *G. nemoralis* in Bulgaria is uncertain.

* *Deschampsia flexuosa* (L.) Trin. subsp. *flexuosa*

(2e), 14.6.1995; (2g), 14.6.1995, SO 98 281.

* *Aegilops triuncialis* L. subsp. *triuncialis*

(2c), 13.6.1995.

* *Phleum bertolonii* DC.

(2c), 13.6.1995; (2f), 3.8.1994, SO 98 219; (2g), 1995.

* *Vulpia bromoides* (L.) S. F. Gray

(2d), 13.6.1995, SO 98 218.

* *Elymus panormitanus* (Parl.) Tzvelev

(2g), 14.6.1995, SO 98 216; (2j), 14.6.1995, SO 98 217.

* *Festuca arundinacea* Schreb. subsp. *fenas* (Lag.) Archang.

(2c), 13.6.1995, SO 98 277.

JUNCACEAE

* *Juncus tenuis* Willd.

(2i), 15.5.1995, SO 98 249.

CYPERACEAE

Carex flacca Schreb. subsp. *serrulata* (Biv.) Greuter

(2f), 3.8.1994, SO 97 167; (2g), 14.6.1995, SO 98 268. Its distribution in N. Mt. Strandzha is confirmed [18, as var. *cuspidata* Aschers. & Graebn.].

LILIACEAE

* *Muscari comosom* (L.) Mill.

(5), 23.5.1994, SO 97 140.

* *M. vandasii* Velen.

(2g), 20.4.1995, SO 98 269.

IRIDACEAE

* *Iris sintenisii* Janka

(2a), 19.4.1995, SO 98 270; (5), 24.5.1994, SO 97 168.

I. suaveolens Boiss. & Reut.

(2g), 20.4.1995, SO 98 282. Its distribution in N. Mt. Strandzha is confirmed [6, as *I. melita* Janka].

ORCHIDACEAE

* *Epipactis helleborine* (L.) Crantz subsp. *viridiflora* (Hoffm.) Irmisch

(2f), 3.8.1994, SO 98 271; (2g), 20.4.1995, SO 98 250.

* *Ophrys sphegodes* Mill. subsp. *mammosa* (Desf.) Soó ex E. Nelson

(1), 19.4.1995, SO 98 253.

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