

Addition to the Erysiphales of Bulgaria

Gavril Negrean¹ & Cvetomir M. Denchev^{2*}

¹University of Bucharest, Dimitrie Brandza Botanical Garden, Cotroceni Bd. 32, RO-76258 Bucharest 35, Romania

²Institute of Botany, Bulgarian Academy of Sciences, 23 Acad. G. Bonchev St., 1113 Sofia, Bulgaria

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Abstract. Of the 73 specimens of Erysiphales collected in the north-eastern part of Bulgaria in 1996, 1998, and 1999, and another 3 Bulgarian specimens present in herb. BUCM, one species (*Erysiphe caulicola*), and 42 fungus-host combinations are reported for the first time from this country. In addition, 17 new localities for previously known such combinations are recorded from Black Sea Coast, Northeast Bulgaria, and Sofia region.

Key words: ascomycetes, Bulgaria, Erysiphales, fungal diversity

Introduction

In 1996, 1998, and 1999, during the field investigations in the Bulgarian part of Dobroudzha and the Black Sea shore, 73 specimens of Erysiphales were collected. The study of these specimens, as well as the investigation of other 3 herbarium specimens from Bulgaria, kept in the Mycological Herbarium of the Institute of Biology in Bucharest (BUCM), showed the occurrence of one species, *Erysiphe caulicola* (Petr.) U. Braun, and 42 fungus-host combinations new for Bulgaria. In the present article these new records are listed. Seventeen new localities for previously known fungus-host combinations are also reported from the Black Sea Coast and Northeast Bulgaria. This contribution is an addition to the data for the Erysiphales of Bulgaria published by Fakirova (1991) and Negrean & Denchev (2000, 2002).

The new records are marked with an asterisk (*). Voucher specimens for all findings are deposited in BUCM and the accession number within brackets is given at the end of each specimen citation. Gavril Negrean collected all specimens, unless otherwise stated.

New records

Blumeria graminis (DC.) Speer

**Bromus benekenii* (Lange) Trimen – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto ‘Tuzlata’ ad oppidum Baltschik, 22 Maj 1999 (136 707).

**B. japonicus* Thunb. subsp. *japonicus* – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 22 Maj 1999 (136 693).

**B. ramosus* Hudson – Bulgaria boreo-orientalis, distr. Silistra, in oppido Tutrakan, 13 Jun 1933, T. Săvulescu & C. Sandu (sub *Erysiphe graminis* DC.) (4269).

B. sterilis L. – *Ad Pontum Euxinum, distr. Dobritsch, in loco dicto ‘Tuzlata’ ad oppidum Baltschik, 22 Maj 1999 (136 709).

Dactylis glomerata L. *subsp. *aschersoniana* (Graebner) Thell. – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 24 Maj 1999 (136 773).

**Dasypyrum villosum* (L.) P. Candargy – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto ‘Albena’ prope pagum Kranevo, 20 Maj 1999 (136 627).

**Hordeum bulbosum* L. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto ‘Bolata Dere’ ad promontorium Kaliakrae, 19 Maj 1999 (136 565); Ad Pontum Euxinum, distr. Dobritsch, ad pedem collibus Tschirakman prope oppidum Kavarna, 18 Maj 1999 (136 539).

*Corresponding author: e-mail: denchev@bio.bas.bg

H. murinum L. – *Ad Pontum Euxinum, distr. Dobritsch, prope pagum Durankulak, 43°44'12" N, 28°33'35" E, alt. 30 m, 17 Maj 1999 (136 508 & 136 509).

**Koeleria nitidula* Velen. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 27 Maj 1999 (136 870).

Poa trivialis L. *subsp. *sylvicola* (Guss.) H. Lindb. fil. – Ad Pontum Euxinum, distr. Dobritsch, in pago Kranevo, 20 Maj 1999 (136 604).

Erysiphe biocellata Ehrenb.

**Salvia nemorosa* L. – Ad Pontum Euxinum, distr. Dobritsch, ad promontorium Kaliakrae, 43°21'39" N, 28°27'57" E, alt. 50 m, 22 Sep 1998 (sub *Erysiphe salviae*) (136 010).

**S. pratensis* L. – Ad Pontum Euxinum, distr. Dobritsch, in pago Kamen Brjag, 43°26'47" N, 28°33'08" E, alt. 40 m, 23 Sep 1998 (sub *Erysiphe salviae*) (136 076).

**S. sclarea* L. – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sep 1998 (136 338); In horto botanico in oppido Baltschik, 28 Sep 1998 (136 281).

**E. caulicola* (Petr.) U. Braun

Astragalus vesicarius L. – Ad Pontum Euxinum, distr. Dobritsch, ad oppidum Baltschik, 18 Maj 1999 (136 559) & 23 Maj 1999 (136 744).

E. cichoracearum DC.

**Achillea pannonica* Scheele – Ad Pontum Euxinum, distr. Dobritsch, ad confines bulgariae prope pagum Durankulak, 43°44'12" N, 28°33'35" E, alt. 30 m, 21 Sep 1998 (135 984).

**Anthemis tinctoria* L. s. lat. – Ad Pontum Euxinum, distr. Varna, in loco dicto 'Zlatni Pjasatzi', 27 Sep 1998 (136 218).

**Aster oleifolius* (Lam.) Wagenitz – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 719).

**Bombycilaena erecta* (L.) Smolj. – Ad Pontum Euxinum, distr. Dobritsch, in collibus aridis in oppido Baltschik, 25 Maj 1999 (136 813).

**Centaurea saloniata* Vis. – Ad Pontum Euxinum, distr. Dobritsch, ad promontorium Kaliakrae, 28 Maj 1999 (136 890).

Cirsium vulgare (Savi) Ten. – *Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 28 Sep 1998 (136 300).

**Crepis pulchra* L. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 727).

**Crupina vulgaris* Cass. – Ad Pontum Euxinum, distr. Dobritsch, ad promontorium Kaliakrae, 28 Maj 1999 (136 888); Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 21 Maj 1999 (136 692).

**Helianthus decapetalus* L. (cult.) – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sep 1998 (136 346).

**Inula oculus-christi* L. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 733).

**Lactuca perennis* L. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 701).

L. serriola L. – *Ad Pontum Euxinum, distr. Dobritsch, in pago Bălgarevo, 23 Sep 1998 (136 068); Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sep 1998 (136 333).

**L. tatarica* (L.) C.A. Meyer – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Bolata Dere' ad promontorium Kaliakrae, 43°22'56.6" N, 28°28'13.7" E, alt. 3 m, 22 Sep 1998 (136 030).

**L. viminea* (L.) J. & C. Presl subsp. *viminea* – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sep 1998 (136 335).

**Leontodon crispus* Vill. subsp. *crispus* – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 21 Maj 1999 (136 686) & 23 Maj 1999 (136 742).

**Picris hieracioides* L. subsp. *hieracioides* – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 28 Sep 1998 (136 297).

**Scolymus hispanicus* L. – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sep 1998 (136 334).

**Scorzonera laciniata* L. – Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 24 Maj 1999 (136 797).

**Sonchus asper* (L.) Hill. s. lat. – Ad Pontum Euxinum, distr. Dobritsch, in pago Kranevo, 27 Sep 1998 (136 245).

S. oleraceus L. – *Ad Pontum Euxinum, distr. Dobritsch, ad promontorium Kaliakrae, 43°21'39" N, 28°27'57" E, 22 Sep 1998 (BUCM); Ad Pontum Euxinum, distr. Dobritsch, in horto botanico in oppido Baltschik, 1 Oct 1998 (136 351).

Zinnia elegans Jacq. (cult.) – *Ad Pontum Euxinum, distr. Dobritsch, in pago Kamen Brjag, 43°26'50" N, 28°32' E, alt. 40 m, 23 Sep 1998 (136 077); Ad Pontum Euxinum, distr. Dobritsch, in horto botanico in oppido Baltschik, 26 Sep 1998 (136 168).

E. cruciferarum Opiz ex L. Junell

Arabis turrita L. – *Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 1 Oct 1998 (136 365) & 21 Maj 1999 (136 672).

**Cleome spinosa* L. (cult.) – Ad Pontum Euxinum, distr. Dobritsch, in horto botanico in oppido Baltschik, 23 Sep 1998 (136 051).

**Papaver rhoeas* L. – Ad Pontum Euxinum, distr. Dobritsch, prope pagum Durankulak, 43°44'12" N, 28°33'35" E, alt. 30 m, 17 Maj 1999 (136 510).

E. cynoglosii (Wallr.) U. Braun

**Asperugo procumbens* L. – Ad Pontum Euxinum, distr. Dobritsch, prope oppidum Baltschik, 21 Maj 1999 (136 667).

**Onosma heterophylla* Griseb. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 735).

E. depressa (Wallr.) Schldl.

**Arctium minus* Bernh. – Ad Pontum Euxinum, distr. Dobritsch, prope pagum Vaklino, 43°39'04" N, 28°31'32" E, alt. 30 m, 26 Sep 1998 (136 172).

E. galeopsidis DC.

Ballota nigra L. subsp. *nigra* – *Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 24 Maj 1999 (136 785); *Bulgaria boreo-orientalis, distr. Dobritsch, in oppido Dobritsch, 26 Maj 1999 (136 822).

**Lamium amplexicaule* L. – Ad Pontum Euxinum, distr. Dobritsch, in pago Bălgarevo, 19 Maj 1999 (136 592).

Stachys recta L. subsp. *recta* – *Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 26 Maj 1999 (136 873).

E. galii S. Blumer

Galium aparine L. – *Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 713); In oppido Baltschik, 21 Maj 1999 (136 641 & 136 655).

**G. spurium* L. – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 22 Maj 1999 (136 711).

E. heraclei DC.

**Chaerophyllum bulbosum* L. – Bulgaria boreo-orientalis, distr. Ruse, in pago Schtrăklevo, 22 Jun 1996 (133 114).

**Daucus guttatus* Sibth. & Sm. subsp. *zahariadii* Heywood – Ad Pontum Euxinum, distr. Varna, in loco dicto 'Zlatni Pjasatzi', 27 Sep 1998 (136 235).

Torilis nodosa (L.) Gaertner – *Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 22 Maj 1999 (136 695).

E. knautiae Duby

Cephalaria transylvanica (L.) Roemer & Schultes – *Ad Pontum Euxinum, distr. Dobritsch, prope hortus botanicus in oppido Baltschik, 1 Oct 1998 (136 366).

**C. uralensis* (Murray) Roemer & Schultes – Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Bolata Dere'

ad promontorium Kaliakrae, 19 Maj 1999 (136 567); Ad Pontum Euxinum, distr. Dobritsch, in oppido Baltschik, 30 Sept 1998 (136 319).

Scabiosa ochroleuca L. – *Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Tuzlata' ad oppidum Baltschik, 28 Sep 1998 (136 296).

E. pisi DC.

Medicago sativa L. (subspont.) – *Ad Pontum Euxinum, distr. Varna, in loco dicto 'Zlatni Pjasatzi', 27 Sep 1998 (136 232).

Vicia sativa L. – *Bulgaria boreo-orientalis, distr. Silistra, in oppido Silistra, 1 Jul 1916, T. Săvulescu & C. Sandu (sub *Erysiphe polygoni* DC.) (Herb. Mycol. Roman., no. 82 – BUCM 97 013).

E. polygoni DC.

Persicaria lapathifolia (L.) S.F. Gray – *Ad Pontum Euxinum, distr. Dobritsch, in loco dicto 'Bolata Dere' ad promontorium Kaliakrae, 43°22'56.6" N, 28°28'13.7" E, alt. 3 m, 22 Sep 1998 (136 029); Ad Pontum Euxinum, distr. Dobritsch, in horto botanico in oppido Baltschik, 1 Oct 1998 (136 353); Ad Pontum Euxinum, distr. Varna, in arenosis maritimis in loco dicto 'Zlatni Pjasatzi', 27 Sep 1998 (136 221).

**P. maculata* (Raf.) S.F. Gray – Regio Sophiensis, in urbe Sofia, 13 Oct 1931, B. Ivanov (BUCM).

**Rumex patientia* L. s. lat. – Ad Pontum Euxinum, distr. Dobritsch, ad promontorium Kaliakrae, 43°21'39" N, 28°27'57" E, alt. 50 m, 22 Sep 1998 (136 023).

E. ranunculi Grev.

**Ranunculus constantinopolitanus* (DC.) D'Urv. – Ad Pontum Euxinum, distr. Dobritsch, ad loc. dict. 'Albena' prope pagum Kranevo, ad oram rivuli Batova, 20 Maj 1999 (136 613).

**R. repens* L. – Ad Pontum Euxinum, distr. Dobritsch, in horto botanico in oppido Baltschik, 24 Sep 1998 (136 096); Bulgaria boreo-orientalis, distr. Ruse, in pago Schtrăklevo, 22 Jun 1996 (133 116).

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