

**ERYSIPHE FLEXUOSA (PECK) U. BRAUN & S. TAKAMATSU (FUNGI,
ASCOMYCOTA) – A NEW SPECIES IN ROMANIA**

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Abstract: *Erysiphe flexuosa* (Peck) U. Braun & S. Takamatsu was found on leaves of *Aesculus hippocastanum* L. for the first time in Romania. Its description, illustration and distribution are given.

Key words: *Erysiphe flexuosa*, fungi, Romania

Introduction

Erysiphe flexuosa is a common North American powdery mildew species, widespread on *Aesculus x carnea* Hayne, *A. glabra* Willd., *A. hippocastanum* L., *A. octandra* Marsh. and *A. pavia* L. in Canada and USA (BRAUN 1987).

In 1991, BUNKINA recorded this species on *A. hippocastanum* from a Botanical Garden in the Far East of Russia (BRAUN 1987).

In 1999, BRAUN found *Erysiphe flexuosa* on *Aesculus hippocastanum* in Germany [1]. Simultaneously BOLAY found this species in Switzerland [1].

In 2002, PIATEK, ZIMMERMANNOVA – PASTIRCAKOVA & PASTIRCAK and ING & SPOONER published first records from Poland, Slovakia and Great Britain respectively [1].

Romanian literature did not mention *Erysiphe flexuosa* in Romania [2, 4, 5].

In 2000, we discovered this species on *Aesculus hippocastanum* in Romania (**Photo 1**).

Material and Methods

Leaves of *Aesculus hippocastanum* with powdery mildew infections were used for identification of microscopic fungus.

The anamorphic and teleomorphic states of the fungus were examined at scanning electronic microscope and then they have taken a photo of them (**Photo 2**).

Mycological samples were collected from Botosani (47°33'36"N, 26°40'50"E) and Pascani (47°07'30"N, 26°45'50"E) in 2000.

Voucher specimens are deposited at Herbarium of 'Al. I. Cuza' University of Iasi. Samples were also sent to Herbarium of Martin – Luther – University from Halle (Germany).

Results and Discussion

Morphology

Symptoms: Powdery mildew disease, amphigenous, often epiphyllous, forming thin superficial whitish or greyish white mycelia patches or effuse, arachnoid mycelia growth, evanescent to subsistent. Ascospores scattered to gregarious, minute, blackish [6].

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Microscopic features: Mycelium on leaves, amphigenous, thin, effused or patches evanescent, rarely subsistent, conidia ellipsoid, oblong, ca 26 – 32 μm x 11 – 16 μm . Cleistothecia (photo 1) scattered to gregarious, (85 -) 100 – 140 (- 170) μm in diam, cells irregularly polygonal, ca 8 – 25 μm , two types of appendages present, the long, equatorial appendages are *Uncinula* – like, stiff or somewhat flexuous, (15 -) 25 – 60 per ascoma, 0,5 – 1,5 times as long as the cleistothecial diameter, mostly about as long as the cleistothecial diameter, hyaline or somewhat brown at the base, smooth or usually rough below, thin – walled above, thick – walled towards the base, aseptate, ca 4,5 – 8 μm near the base, width somewhat increasing upwards, ca 7 – 12 μm wide above, apex closely circinate, not conspicuously enlarged, appendages undulate to helically twisted for one – quarter to one – half length below the hooked apex, a second circle of short, stiff, bristle – like, straight to curved appendages present, they are narrowed upwards, ca 15 – 40 μm long and 3,5 – 7,5 μm wide, hyaline, aseptate, rough, ascus 5 – 12 μm , sessile or shortly stalked, 40 – 65 x 25 – 40 μm (6 -) 8 – spored, spores ellipsoid – ovoid, 15 – 25 x 9 – 13 μm [3].

Host range and distribution

This species is widespread in North America (Canada, USA) on *Aesculus x carnea*, *A. glabra*, *A. hippocastanum*, *A. neglecia*, *A. octandra*, *A. parviflora*, *A. pavia* and *A. sylvatica* [3]. It has been recorded from the Far East of Russia (on *A. hippocastanum*, in a botanical garden). Since 1999, this species has been observed in Europe (on *A. x carnea*, *A. chinensis*, *A. hippocastanum*, *A. indica*, *A. neglecta* and *A. x plantierensis*) - Austria, Croatia, France, Germany, Poland, Slovakia, Switzerland, UK [6].

On *Aesculus x carnea*, Austria: Vienna, center of the city. 30 Sept. 2001 and Tulln, front of river Danube, 22 Sept. 2001, M. Pastireák; *Czech Republ.*: Prague, Mala Strana, 9 Sept. 2002, Zimmermannová-Pastireáková; *France*: Haute-Savoie, along the lake of Genève, Yvoire, Aug. 2000, A. Bolay, Alsace, Colmar, Aug. 2000. A. Bolay, Gard, Anduze, Bamboo plantation of Prafrance, Sept. 2000, A. Bolay; *Slovakia*: Bratislava, Nove Mesto, 24 Sept. 2001, K. Zimmermannová-Pastircáková; *Switzerland*: Berne, Matte, Jul. 2001, A. Bolay, Genève, Botanical Garden, Oct. 1999-2001, A. Bolay, Vaud, Morges, Quai and Lutry, Quai, Oct. 1999. A. Bolay. along the lake of Genève (Villeneuve, Chillon, Montreux, Cully, Lutry, Lausanne, Morges, Nyon), Oct. 2000, A. Bolay and Yverdon-les-Bains, Oct. 2000, A. Bolay.

On *A. chinensis*, *Switzerland*: Vaud, Aubonne, Arboretum, Sept. and Oct. 2000, A. Bolay.

On *A. hippocastanum*, Austria: Vienna, centre of the city, 30 Sept. 2001, K. Zimmermannová-Pastircáková, Tulln, front of river Danube, 22 Sept. 2001, M. Pastircák; Croatia: Zagreb, Cmrok, park; 20 Sept. 2001, D. Diminie; *Czech Republ.*: Olomouce, park, 5 sept. 2002, Zimmermannová-Pastireáková, Prague. Mala Strana, 9 Sept. 2002, Zimmermannová-Pastireáková; *Poland*: Szczecin, Agricultural University, 5 Oct. 2000, I. Adamska, DPP 2356, 2357, at Chopin and Wszystkich Swietych streets, 3-4 Oct. 2001, I. Adamska, DPP 2360, 30 Oct. 2001, I. Adamska, DPP 2362, at Cyryl and Metody street, 3-4 Oct. 2001, I. Adamska, DPP 2363, Kluki. Slowiński National Park, Skansen museum, 22

Aug. 2001, I. Adarnska, DPP 2358 and 18 Sept. 2001, I. Adamska, DPP 2361; *Romania*: Botosani (47°33'36"N, 26°40'50"E), 20 Aug. 2000, C. Pricop, Pascani (47°07'30"N, 26°45'50"E), 19 Aug. 2001, C. Pricop, *Slovakia*: Bratislava, military hospital, 28 Sept. 2001, K. Zimmermannová-Pastireáková, Pezinok, castle park, 27 Sept. 2001, G Juhasova and Zilina, town park, 15 Aug. 2001, K. Zimmermannová-Pastireáková; *Switzerland*: everywhere in the lake of Genève region since 2000, A. Bolay.

On *A. indica*, *Switzerland*: Genève, Botanical Garden, Oct. 2001, A. Bolay.

On *A. neglecta* and *A. x plantierrensis*, *Switzerland*: Vaud, Aubonne, Arboretum, Oct. 2000, A. Bolay.

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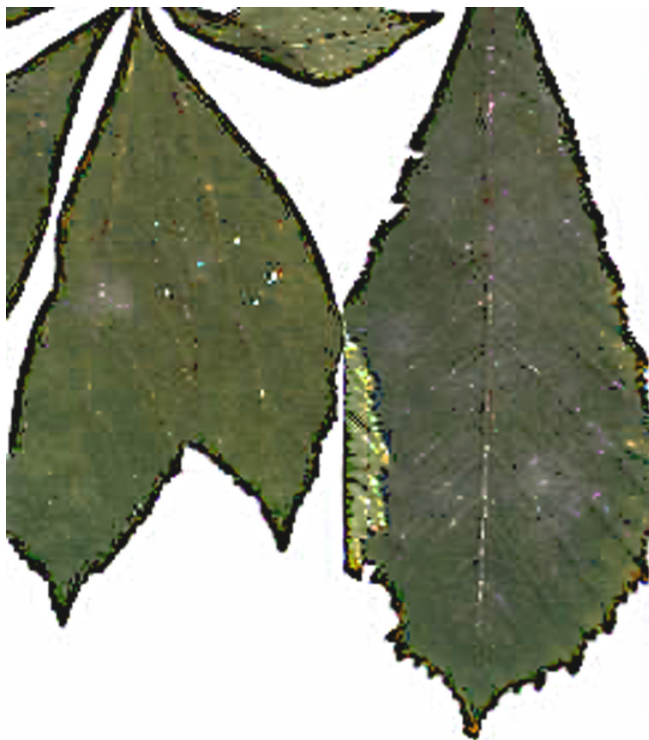


Photo 1 – *Erysiphe flexuosa* (Peck) U. Braun & S. Takamatsu – white powdery on a leaf of *Aesculus hippocastanum* L.

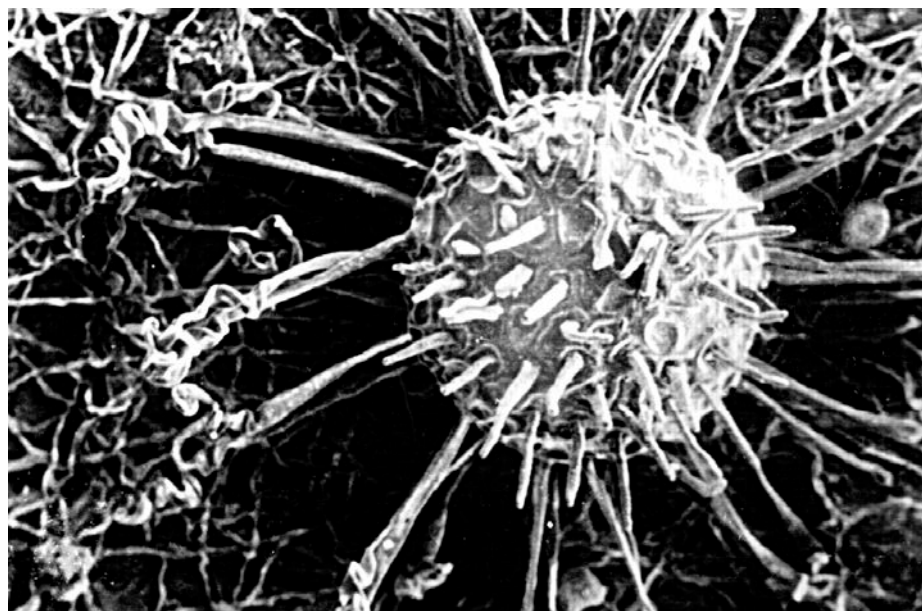


Photo 2 – *Erysiphe flexuosa* (Peck) U. Braun & S. Takamatsu on *Aesculus hippocastanum* L. (x 670)