PLECTANIA MELASTOMA (SARCOSOMATACEAE, PEZIZALES) IN SLOVAKIA

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Key words: Ascomycota, red-listed species, ecology, paraphyses, ionomidotic reaction

INTRODUCTION

Plectania melastoma is the soly species of the genus reported from Slovakia. This very inconspicuous spring species was collected for the first time by L. Hagara in 1984 and by J. Dítě in 1988 (Škubla, 2003). It was found again 22 years later. Currently, it is known from 21 localities in Slovakia. The species is red-listed in Slovakia (Lizoň, 2001) and protected by law (Anon., 2003).

MATERIALS AND METHODS

The descriptions of macro and micro-characters are based on fresh material. The microscopic mounts were prepared in water, some in 3% aqueous solution of KOH. The studied specimens are kept in S. Glejdura's private herbarium (PSG) and in herbarium of the Slovak National Museum (BRA). Data on studied specimens from BRA are presented as written on labels. Names of phytogeographic units follow Futák (1984), names of orographic units (in parentheses) follow the database of fauna of Slovakia (Anon., 1983).

SPECIES DESCRIPTION

Plectania melastoma (Sowerby) Fuckel

Apothecia with short or rudimentary stipe, mature specimens 0.8-2.5 cm across, sitting on brown-black dense tomentum 2-6 cm broad, which covers the woody substrate. Hymenium dark brown to black, paler when dry. Outer surface minutely downy, brown black to black, encrusted with numerous orange or brick-red granules accumulated near the margin (see photographs on p. [1] and [35]). Granules dissolve in KOH solution and have strong ionomidotic reaction. In old specimens, granules are sometimes scarcely visible or missing. Ectal excipulum of textura angularis, the outer layer dark brown, the inner layer of elongated textura

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angularis perpendicularly oriented to the outer surface, sub-hyaline to hyaline. Medullary excipulum of textura intricata, immersed in a gel. Asci cylindric, 8-spored, 330-460 × 12-14 µm. Spores ellipsoid to ellipsoid-fusoid, smooth, content granular, 21-25 × 10-13 µm, with lateral gelatinous sheath, visible in vivo on mature spores still in ascus or on just discharging spores. Paraphyses of two types: septate, cylindrical, slender, occasionally anastomosed and forked, 1.5-2.3 µm thick, 2.5-4 µm at the apices; non septate, or with one septum near the base, where 2.5-3.8 µm thick. The wall is either the same thickness or up to 0.1 µm thicker than normal paraphyses.

Plectania melastoma is a saprophyte growing on branches up to 5 cm diam. of both coniferous (*Picea abies, Pinus sylvestris*) and deciduous trees (*Carpinus betulus, Salix caprea*) and on stems of various species of *Rosa* and *Rubus*. Svrček (2006) presents as substrates only twigs of *Juniperus* sp., *Rosa* sp. and stems of *Rubus* sp. in Czech Republic. Apothecia were collected from March to July, mainly from March to May. All localities in Slovakia belong to the region Carpaticum occidentale, apart from one locality in the northernmost part of Košická kotlina basin (Pannonicum). According to altitudinal classification, the species occurs from the colline to submontane belt. The lowest locality is at altitude 280 m, the highest at 750 m. There is no collection from the warmest regions of Slovakia so far. Natural biotopes of *Plectania melastoma* are stream valleys with sufficient supply of thin woody and shrub material.

DISCUSSION

An ionomidotic reaction is present also in *Plectania rhytidia* (Berk.) Nannf. & Korf but is weaker and detectable only in some collections (Paden, 1983). An ionomidotic reaction was not investigated or is unknown in other species of *Plectania*.

Paden (1983) called non-septate paraphyses „setae“ (in description of *P. rhytidia*). The only difference with normal paraphyses is the lack of septa and the thickness of their wall. We believe that it is more suitable to call them „non-septate“ paraphyses rather than „setae“. Such non-septate paraphyses are present also in all European species of the genus *Pseudoplectania* (Donadini, 1987) and in *Urnula craterium* (Schwein.) Fr. (Dissing, 1981). This was confirmed also in material studied from Slovakia. It is possible that all members of the family *Sarcosomataceae* apart from normal septated paraphyses possess also non-septate paraphyses.

The distribution of *Plectania melastoma* follows areas where thin woody material, especially tree branches and shrubs, is available. These localities are often affected by human activities such as felling trees particularly when short felling periods are typical, such as coppice forests or areas under power lines regularly cleared for maintenance, when branches are laid aside after cutting. Regular addition of thin woody material was found to be an important factor for sporocarp occurrence. On the other hand, sporocarps were found at localities with no signs of human activities. These were areas with fallen branches, mostly at wet (humid) sites, not far from streams. Majority of human-affected localities showed similar (higher) moisture as ecological characteristics. Soil and branches at these localities are frequently covered by mosses with apothecia growing hidden under moss.

SPECIMENS STUDIED

Fatra Mts. (Malá Fatra Mts.): 6979c, Slovacia centralis – Montes Malá Fatra: ad lignum emort. humidum decortiatum in silva mixta (*Pinus, Picea, Fagus*) in colle Dubový diel, 2,4 km situ occ.-mer.-occ. a pago Bystrička (distr. Martin), 49º02'20" N, 18º51'10" E, alt. s. mare: 660 m, die: 21.VII.1984, leg. Ladislav Hagara, det. Jiří Moravec, rev. S. Glejdura, (BRA). – (Žilinská kotlina Basin): 6878c, Slovacia septentr. – Rajecké Teplice, prope Žilina, horto public, ad ramulum marcidum arbor. frond. ad terram iacentam, alt. s. mare: 420 m, die: 9. V. 1988, leg. J. Díte, det. J. Kuthan, rev. S. Glejdura (BRA).

Nízke Tatry Mts. (Nízke Tatry Mts.): 7084a, Malužiná, Michalovo valley, alt. 750 m, on fallen branch of *Salix* sp., 27. Apr. 2011, leg. S. Glejdura, V. Kunca, V. Kučera (PSG 3828). – (Kozie chrbty Mts.): 6987d, Poprad, Kvetnica spa, E slope, on twigs, alt. 650 m, leg. E. Bohunická (herb. E. Bohunická). – (Starohorské vrchy Mts.): 7181d, Hiadeľ, forest part Vážna, alt. 620 m, on fallen frondose branch, 1. May 2011, leg. P. Štefanovie (PSG 4065).

Slovenské Rudohorie Mts. (Stolické vrchy Mts.): 7286d, Muránska Zdychava, valley of Ševkov potok brook, alt. 610 m, on fallen branch of *Picea abies*, 48°45'8.8" N, 20°8'27.5" E, 23. Apr. 2011, leg. S. Glejdura (PSG 3849). – (Stolické vrchy Mts.): 7286d, Muránska Zdychava, W slope of Štefková settlement, 48°45'11.5" N, 20°8'25" E, 22. May 2011, leg. S. Glejdura (PSG 3916). – (Stolické vrchy Mts.): 7286c, Muránska Lehota, near dew pond, alt. 360 m, on branch of *Pinus sylvestris* 48°43'53" N, 20°2'50" E, 7. Mar. 2011, leg. R. Verkin (PSG 3842).

Slovenské stredohorie Mts. (Kremnické vrchy Mts.): 7480a, Kováčová, forest part Borinka, alt. 350 m, under power line, on stems of *Rubus* sp., 26. Apr. 2010, leg. S. Glejdura (PSG 3841). – Ibidem 500 m SSE of Stará Kováčová hill, alt. 380 m, under power line, on branch of *Carpinus betulus*, 24. May 2011, leg. S. Glejdura (PSG 3865). – (Javorie Mts.): 7480b, Zvolen, N slope of Veľký vrch hill, alt. 320 m, on branch of *Pinus sylvestris*, 30. Mar 2011, leg. M. Peiger (PSG

3844). – (Zvolenská kotlina basin): Sliač, E part of spa, alt. 400 m, on branch of *Carpinus betulus*, 19. May 2011, leg. V. Kunca (PSG 3908).
Strážovské and Súľovské vrchy Mts. (Považské Podolie Basin): 6876d, Považská Bystrica, near of the residental area Čierne Háje, alt. 380 m, in *Picea* and *Pinus* forest, on branch of *Pinus sylvestris*, 20. Mar. 2011, leg. P. Sirný (PSG 3917).
Západné Beskydy Mts. (Oravská vrchovina Mts.): 6781d, Dolný Kubín, N slope of Kuzmínovo hill, alt. 550 m, on decaying branch of broadleaved tree, 29. May 2010, leg. et det. M Švidroň (PSG 3869). – (Oravská vrchovina Mts.): 6781b, Beňova Lehota, W slope of Vtáčnik hill, alt. 700 m, on small twig of *Picea abies*, 22. July 2011, leg. R. Rutkowski (PSG 4062). – (Turzovská vrchovina Mts.): 6677a, Vysoká nad Kysucou, E slope of Klinkovský vrch hill, alt. 600 m, on branch, 22. Apr. 2011, leg. M. Zajac (PSG 4066).
Stredné Pohornádie basin (Čierna Hora Mts.): 7192b, Veľký Folkmar, water reservoir Ružín, N slope of Sivec hill, alt. 400 m, clearance under power line, on fallen frondose branch, 29. Apr. 2011, leg. J. Rak (PSG 4067). – Ibidem Malá Lodina, forest part Bokšov, alt. 360 m, on stemlet of *Rosa sp.*, 25. Mar. 2011, leg. J. Rak (PSG 4068). – (Volovské vrchy Mts.): 7292b, Košická Belá, N slope of Jahodná hill, alt. 400 m, clearance under power line, on fallen frondose branch, 9. May 2011, leg. J. Rak (PSG 4069).
Košická kotlina basin (Košická kotina basin): 7293c, Košice, settlement Girbeš, at Kamenný potok brook, alt. 330 m, clearance under power line, on stemlet of *Carpinus betulus*, 24. Apr. 2011, leg. J. Rak (PSG 4070).
Vihorlatské vrchy Mts. (Laborecká vrchovina Mts.): 7099a, Snina, NNW base of Kuršina hill, alt. 280 m, on fallen branch of *Pinus sylvestris*, 6. Apr. 2011, leg. J. Pavlík (PSG 4071).

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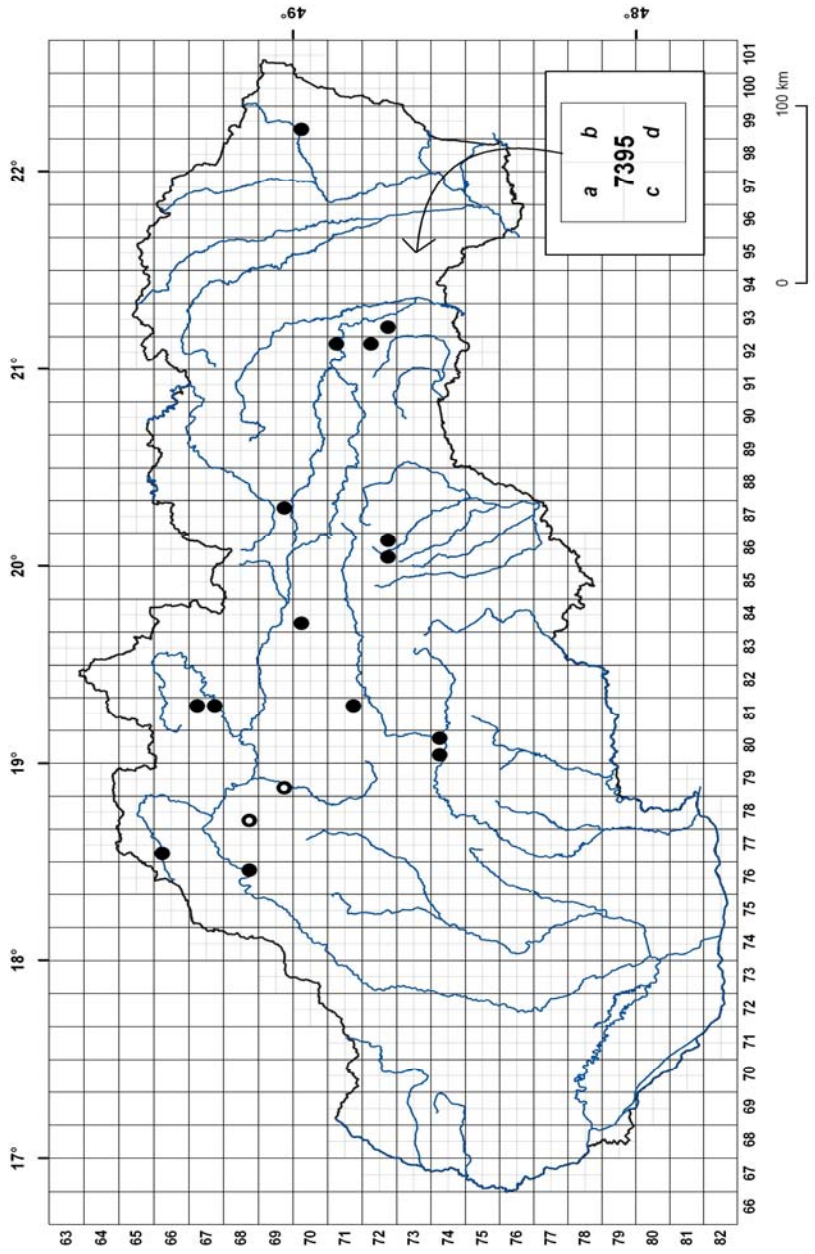
Po 22 rokoch bola znova na Slovensku objavená *Plectania melastoma*. V priebehu posledných rokov pribudlo viacero ďalších lokalít z rozličných oblastí krajiny.

next page:
Distribution of *Plectania melastoma* in Slovakia (rings: collections from the 1980s).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Plectania melastoma
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Plectania melastoma
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Stephanospora caroticolor
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