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New and rare species of *Sphaeropsidales* in the Polish flora. II

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Sixteen species of *Sphaeropsidales* (*Apiocarpella*, *Ascochyta*, *Pestaloziella* and *Septoria*) — new or rarely found in the Polish flora — have been given in this paper. Many of them are rarely found in Europe as well as in other regions all over the world e.g.: *Apiocarpella impatientis*, *Ascochyta brachypodii*, *A. majalis*, *Pestaloziella subsessilis*, *Septoria astericola*, *S. heracleicola*, and *S. vincae*.

Key words: parasitic fungi, *Sphaeropsidales*, distribution in Poland.

INTRODUCTION

In this paper the authors have presented 16 species of *Sphaeropsidales* collected in Poland in the last years, as well as notes about their morphology and geographic distribution. These fungi have not been recorded in Poland as yet, or they have been known from a few stands. The valid name and full bibliographic data have been given for each species. For some taxons their synonims are also given. The presented short descriptions of the fungi were accomplished from studied herbarian materials. The nomenclature of the discussed species as well as the notes on their distribution are based on the monographies mentioned in the previous paper (S a ł a t a et al. 1994).

CHARACTERISTICS OF SPECIES

Apiocarpella anisomera (Kab. et Bub.) Meln., Nov. Sist. Niz. Rast. 13: 94. 1976 [= *Ascochyta anisomera* Kab. et Bub., Hedwigia 43: 418. 1904].

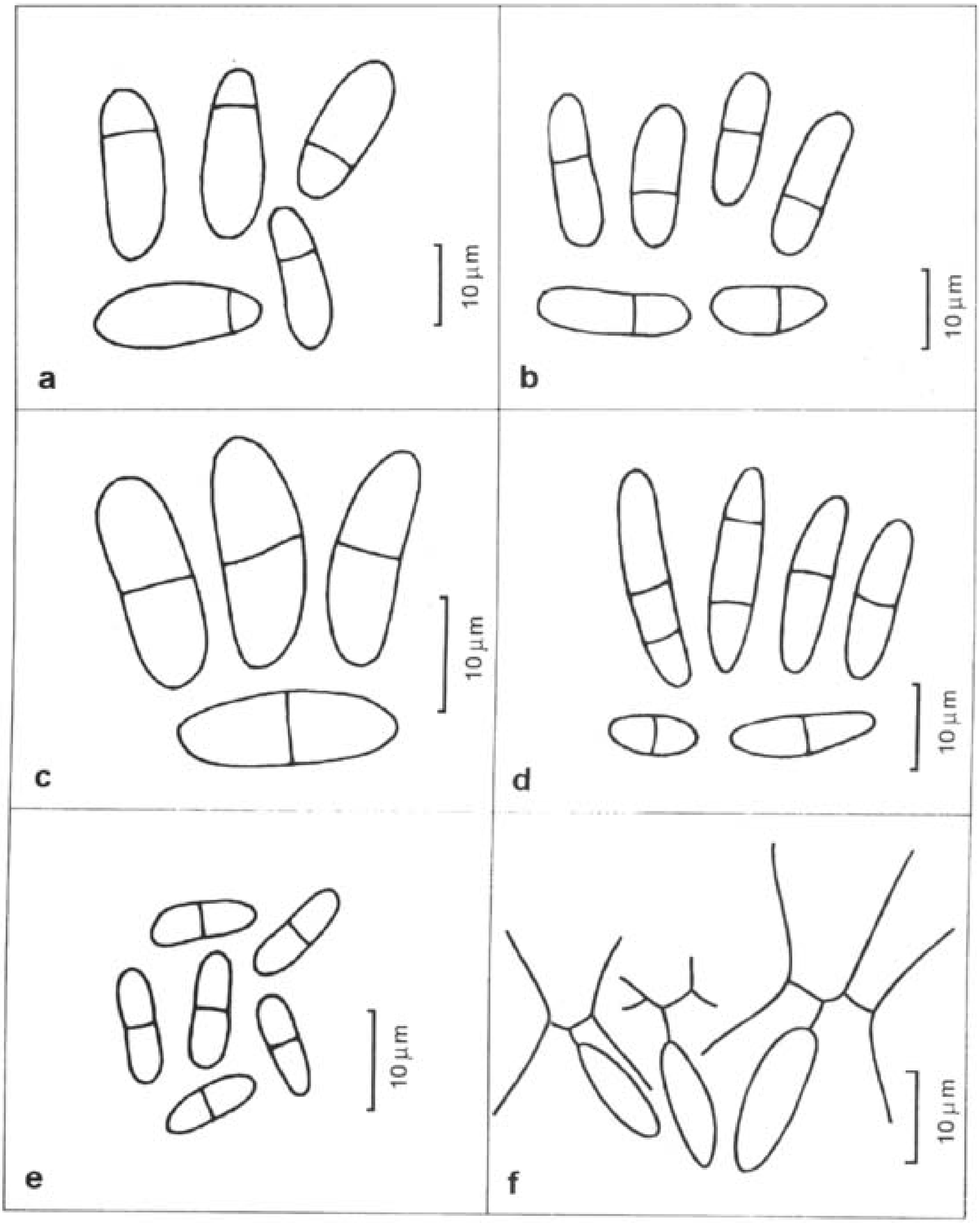

Fig. 1. Conidia of selected species of *Sphaeropsidales:* a — *Apiocarpella anisomera* (Kab. et Bub.) Meln. on *Stellaria nemorum* L., b — *A. impatientis* Vanev et Bakalova on *Impatiens parviflora* DC., c — *Ascochyta brachypodii* (Syd.) Sprague et Johnson on *Brachypodium pinnatum* (L.) P. Beauv., d — *A. majalis* Massal. on *Convallaria majalis* L., e — *A. valerianae* A. L. Sm. et Ramsb. on *Valeriana tripteris* L., f — *Pestaloziella subsessilis* Sacc. et Ell. on *Geranium pusillum* Burm. f. ex L.

Pycnidia yellowish-brown or brown, 140-180 (-250) μm in diam., spherical or slightly flattish from the top, immersed, usually not numerous, distributed on the upper side of leaves and scattered. Porus circular, clearly visible, 15-25 μm in diam. Conidia cylindrical, lengthwise ellipsoidal or even a little sponge cake-shaped, rounded at both ends, erect or slightly curved, at first unicellular then two-cellular with transwerse asymmetrically positioned septum, measuring 20-35 × 8-11 (-13) μm (Fig. 1a).

On leaves of *Stellaria nemorum* L.: Nowy Sącz and the Białowodzka Góra reserve near Nowy Sącz, IX.1988, in thickets.

The fungus recorded so far in Poland only in the Białowieża National Park (S k i r g i e ł ł o et al. 1992; M u ł e n k o 1996) and in Zakopane Basin (S a ł a t a et al. 1993).

Apiocarpella impatientis Vanev et Bakalova, Fitologija 5: 99. 1976.

Pycnidia light-brown, 80-180 μm in diam., spherical or slightly flattish from the top, immersed, distributed on the upper side of leaves and usually not numerous. Porus circular, clearly visible, 15-40 μm in diam. Conidia cylindrical, lengthwise ellipsoidal or even a little clavate, erect or a little curved, at first unicellular, then two-cellular with transverse asymmetrically positioned septum, measuring 13-27 × 5-8.5 μm (Fig. 1b).

On leaves of *Impatiens parviflora* DC.: Lublin – Sławinek, VII. 1989, thickets in the Botanical Garden.

The fungus not recorded from Poland so far. It was described on *Impatiens noli-tangere* L. and known in Bulgaria so far (V a n e v 1985).

Ascochyta brachypodii (Syd.) Sprague et Johnson, Mycologia 42: 537. 1950.

Pycnidia dark-brown or even brown-blackish, 100-160 μm in diam., spherical, more seldom slightly flattish, immersed, distributed usually on the upper side of leaves scattered or gathered in small groups. Porus circular, clearly visible, 10-15 μm in diam. Conidia cylindrical, rounded at both ends, erect or slightly curved and then almost reniform, not constricted or only slightly, two-cellular, measuring 18-20 (-22) × 5-6.5 (-7) μm (Fig. 1c).

On leaves of *Brachypodium pinnatum* (L.) P. Beauv.: Zbocza Płutowskie near Chełmno, IX.1984 in *Adonido-Brachypodietum* and xerothermic thickets.

The fungus not recorded in Poland so far. Known on *Brachypodium sylvaticum* (Huds.) P. Beauv. from several countries of Central Europe.

Ascochyta majalis Massal., Atti Ist. Venet. Sci. 59 (2): 648. 1900.

Pycnidia yellowish-brown to light-brown, 140-185 (-200) μm in diam., immersed, spherical, often slightly flattish from the top, usually not very numerous and gathered in small groups or even in concentric circles,

distributed on both sides of leaves. Porus circular or oval, clearly visible, 20-25 µm in diam. Conidia cylindrical with rounded ends, erect, occasionally slightly asymetric and a little curved, 2 (-3) -cellular, usually not constricted, measuring (14-) 19-23 (-28) × (4-) 5-6 µm (Fig. 1d).

On leaves of *Convallaria majalis* L.: Grabówka near Annopol, VIII.1997, in the cementery and the Szklarnia reserve near Janów Lubelski, X.1995, in mixed forest.

The fungus not reported from Poland so far. It is known from several countries of central and south Europe, moreover from Sweden, the european part of the former Soviet Union and North America.

Ascochyta valerianae A. L. Sm. et Ramsb., Trans. Brit. Mycol. Soc. 4 (1): 176. 1913.

Pycnidia light- to dark-brown, 110-180 µm in diam., spherical, occasionally slightly flattish, immersed, distributed on the upper side of leaves and usually scattered. Porus circular, clearly visible, up to 25 µm in diam. Conidia cylindrical, more seldom lenghtwise ellipsoidal, rounded at the both ends, erect, more seldom slightly curved, usually not constricted, two-cellular, measuring 7-12 × 2-4 µm (Fig. 1e).

On leaves of *Valeriana tripteris* L.: Dolina Małej Łąki in the Tatra National Park, IX.1992, at a trail in beech forest.

The fungus not recorded in Poland so far. Known from many european countries, and moreover from Asia and North America.

Pestaloziella subsessilis Sacc. et Ell., in Sacc., Michelia 2: 575. 1882.

Pycnidia brownish, 80-170 (-200) µm in diam., spherical, immersed and covered long with epidermis, distributed on the upper side of leaves, scattered or in small groups. Porus circular, clearly visible, up to 50 µm in diam. Conidia unicellular, longitudinally ovoid to almost cylindrical, at the base slightly narrowed and dull-edged, at the apex rounded with appendages branched irregularly or dichotomically, 10-25 µm in length. Conidia hialine or pale-yellowish, measuring 15-22 × 4-6 µm (Fig. 1f).

On leaves of *Geranium pusillum* Burm. f. ex L.: Bania near Janów Lubelski, X.1996, on the roadside.

The fungus not recorded in Poland so far. Known from several countries of central and south Europe, as well as from the eastern regions of North America.

Septoria asari Sacc., Michelia 1: 181. 1879 [= *Septoria asaricola* Allesch., Rabenh. Krypt.-fl. 1 (6): 736. 1901].

Pycnidia dark-brown to brown-blackish, 60-85 (-95) µm in diam., spherical, usually half – immersed, numerous, distributed on the upper side of leaves

and scattered. Porus circular, clearly visible, 10-15 µm in diam. Conidia filiform, slightly narrowed at both ends, erect or slightly curved, unicellular or with several indistinct septa, measuring 15-30 × 1-1.5 µm. (Pl. I 3).

On last year's leaves of *Asarum europaeum* L.: Włostowice near Puławy, IV.1986, in a shady ravine.

The fungus recorded so far in Poland only from the environs of Kazimierz Dolny (K o n o p a c k a 1924).

Septoria associata Bub. et Kab., Ann. Mycol. 5: 42. 1907.

Pycnidia dark-brown to brown-black, 45-100 µm in diam., spherical, immersed, distributed on the upper side of leaves and regularly scattered. Porus circular, clearly visible, up to 12 µm in diam. Conidia filiform, erect or slightly curved, unicellular or with 3-4 indistinct septa, measuring 16-45 (-50) × 1-2 (-2.3) µm.

On leaves of *Carduus nutans* L.: Czumów near Hrubieszów, IV.1968, in xerothermic grass.

The fungus known in Poland so far only in Dolina Chochołowska in the Tatra Mts., where it was collected on *Carduus crispus* L. (K u ć m i e r z 1968).

Septoria astericola Ell. et Ev., Journ. Mycol. 1: 150. 1885.

Pycnidia brownish, 60-125 µm, spherical, almost totally immersed, distributed on the upper side of leaves and regularly scattered or gathered in small groups. Porus circular, poorly visible, up to 15 µm in diam. Conidia filiform, erect or slightly curved, unicellular or with 3 indistinct septa, measuring 18-30 (-35) × 1-1.5 µm.

On leaves of *Aster amellus* L.: Kozuby near Pińczów, VIII.1984, in xerothermic grass.

This fungus not recorded in Poland so far. Known from several european countries, moreover from Asia and eastern regions of North America.

Septoria cirsii-heterophylli Petr., Ann. Mycol. 23: 87. 1925.

Pycnidia dark-brown, (45-) 50-80 (-90) µm in diam., spherical, immersed, distributed on the upper side of leaves and usually not very numerous, scattered. Porus circular, clearly visible, up to 12 µm in diam. Conidia filiform, at both ends slightly narrowed, erect or slightly curved, unicellular or with several poorly visible septa, measuring (15-) 20-30 (-35) × 1-1.5 µm (Pl. I 4).

On leaves of *Cirsium rivulare* (Jacq.) All.: Trzcianka near Garwolin, VI.1986 and Porytowe Wzgórze near Janów Lubelski, V.1996, on a meadow.

This fungus known in Poland so far only from the Tatra Mts., where it was collected on *Cirsium helenoides* (L.) Hill (S t a r m a c h o w a 1963).

Note: *Septoria cirsii* Niessl, a fungus recorded in several localities in Poland, also occurs on representatives of the *Cirsium* Mill. genus.

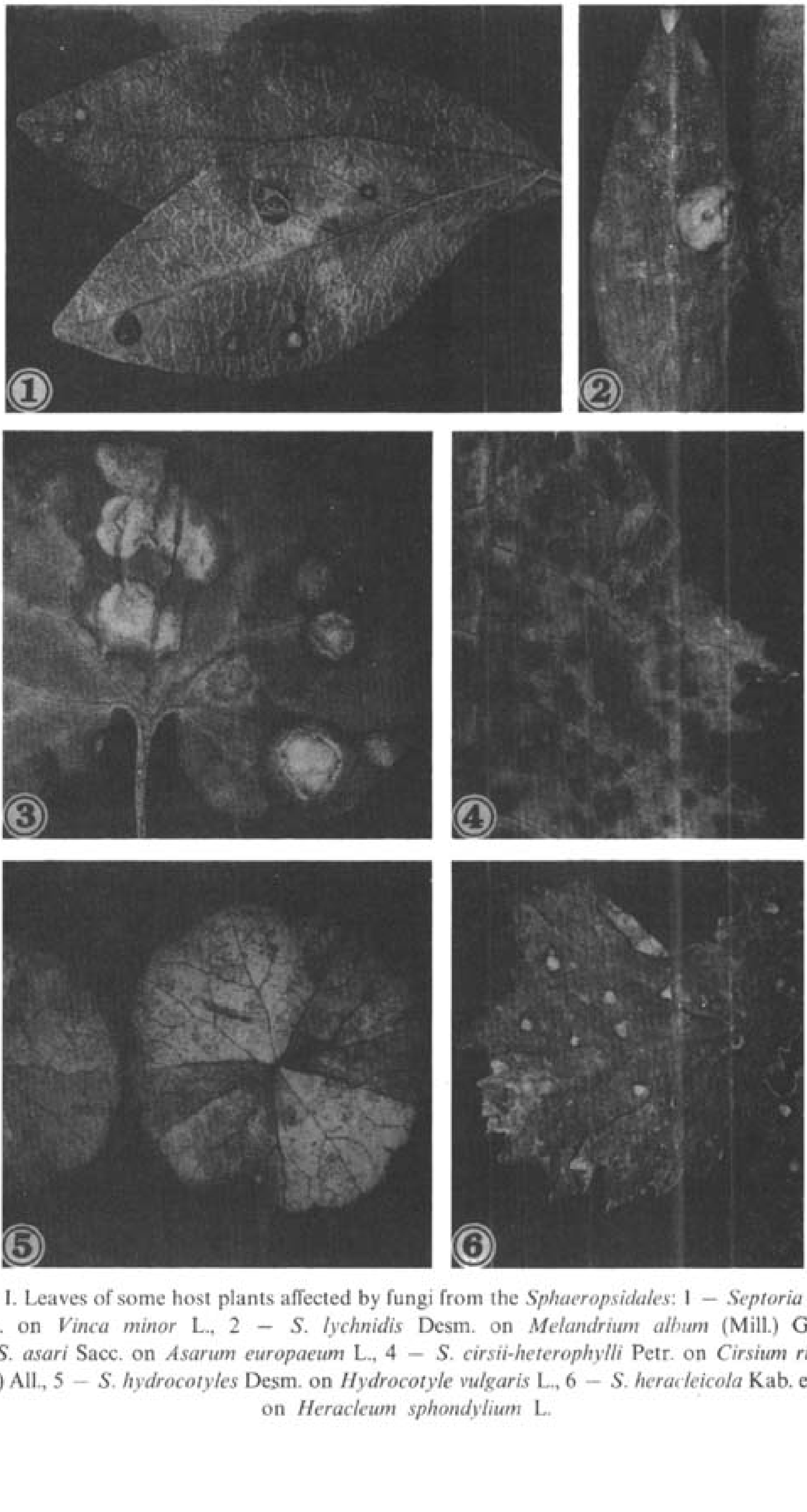

Plate. I. Leaves of some host plants affected by fungi from the *Sphaeropsidales*: 1 — *Septoria vincae* Desm. on *Vinca minor* L., 2 — *S. lychnidis* Desm. on *Melandrium album* (Mill.) Garcke, 3 — *S. asari* Sacc. on *Asarum europaeum* L., 4 — *S. cirsii-heterophylli* Petr. on *Cirsium rivulare* (Jacq.) All., 5 — *S. hydrocotyles* Desm. on *Hydrocotyle vulgaris* L., 6 — *S. heracleicola* Kab. et Bub. on *Heracleum sphondylium* L.

Septoria geranii Rob. et Desm., Ann. Sci. Nat. ser. 3. 20: 93. 1853 [= *Septoria geranii – pratensis* P. Henn., Verh. Bot. Ver. Prov. Brandenb. 44: 178. 1902.]

Pycnidia brownish, 45-80 µm in diam., spherical, immersed, distributed on both sides of leaves and regularly scattered or gathered in small groups. Porus circular, visible relatively clearly, up to 15 µm in diam. Conidia filiform, erect or slightly curved, with 3-4 not quite distinct septa, more seldom unicellular, measuring (18-) 25-50 × 1-1.5 µm.

On leaves of *Geranium pratense* L.: Rymanów near Krosno, VII.1992, on a medow.

This fungus not recorded in Poland so far. Known from many european countries, moreover from Asia and North America.

Septoria heracleicola Kab. et Bub., Ann. Mycol. 5: 43. 1907.

Pycnidia dark-brown to brown-blackish, 60-80 (-100) µm in diam., spherical, immersed, or slightly protruding, distributed on the upper side of leaves and usually scattered. Porus circular, clearly visible, up to 15 µm in diam. Conidia filiform, at the ends slightly narrowed, erect or slightly curved, unicellular, measuring 20-45 × 1-1.5 µm (Pl. I 6).

On leaves of *Heracleum sphondylium* L.: Rymanów near Krosno, VIII.1994, on a meadow.

This fungus not recorded in Poland so far. Known from several european countries, moreover from central Asia.

Note: *Septoria heraclei* (Lib.) Desm., a fungus recorded in many regions of Poland, occurs also on representatives of the *Heracleum* L. genus.

Septoria hydrocotyles Desm., Ann. Sci. Nat. ser. 2. 17: 109. 1842.

Pycnidia dark-brown or blackish, 60-100 µm in diam., spherical, slightly convex at the apex, immersed, more seldom slightly protruding, distributed on the upper side of leaves and usually regularly scattered. Porus circular, clearly visible, 15-20 µm in diam. Conidia filiform, erect or slightly curved, when young unicellular, with numerous fat droplets, then with 3 distinct septa, measuring 15-30 × 1-2 µm. (Pl. I 5).

On leaves of *Hydrocotyle vulgaris* L.: Szewce near Janów Lubelski, IX.1995 and VIII.1996.

This fungus known in Poland so far from single localities in Pomorze Zachodnie (Western Pomerania) (K u ć m i e r z 1974) and in Polesie Lubelskie (M u ł e n k o 1989).

Septoria lychnidis Desm., Ann. Sci. Nat. ser. 3. 11: 347. 1849 [= *Septoria melandrii* Pass., Atti Soc. Critt. Ital. 2: 22. 1879].

Pycnidia light-brown, 60-100 (-110) µm in diam., spherical, immersed, distributed usually on the upper side of leaves, scattered. Porus circular, clearly

visible, up to 15 µm in diam. Conidia narrowly bacilliform, erect or slightly curved, 2-5 (-6) -cellular, measuring 25-60 (-75) × 2-3 µm. (Pl. I 2).

On leaves of *Melandrium album* (Mill.) Garcke: Podbór near Tyszowce, VII.1988 and Wawrzyce near Jasło, VII.1986, on the roadside.

The fungus recorded in Poland so far only in Kudowa (S t a r m a c h o w a 1967) and in Czorsztyn on the Dunajec river (K u ć m i e r z 1976).

Note: *Septoria dimera* Sacc., a fungus recorded from many regions of Poland, occurs also on representatives of the *Melandrium* Röhl. genus.

Septoria socia Pass., Atti Soc. Critt. Ital. 2: 32. 1879.

Pycnidia dark-brown, 60-90 (-100) µm in diam., spherical, immersed or slightly protruding, distributed on both sides of leaves and usually regularly scattered. Porus circular, clearly visible, up to 15 µm in diam. Conidia filiform, erect or slightly curved, first unicellular, then 2-5 septate, measuring 20-35 × 0.75-1.5 µm.

On leaves of *Leucanthemum vulgare* Lam.: Lublin – Sławinek, VII. 1988, in the Botanical Garden and Rymanów near Krosno, IX.1994, on a medow.

The fungus not recorded in Poland so far. Known from several countries of south and central Europe and also from Asia and North America.

Note: *Septoria chrysanthemi* Allesch. and *S. leucanthemi* Sacc. et Speg. occur also on this host. These fungi were already recorded in Poland.

Septoria vincae Desm., Ann. Sci. Nat. ser. 2. 19: 6. 1843.

Pycnidia dark-brown, 100-200 (-250) µm in diam., spherical, almost totally immersed, distributed on the upper side of leaves and usually only singly in the centre of the infected area. Porus circular, clearly visible, up to 25 µm in diam. Conidia filiform, erect or slightly curved, unicellular, measuring 20-35 × 1-1.5 µm. (Pl. I 1).

On leaves of *Vinca minor* L.: Hrebenne near Lubycza Królewska, IX.1989, in beech forest.

The fungus collected in Poland so far only in Kościelec near Kraków (S t e c – R o u p p e r t o w a 1936). Known from many european countries and also from Asia and eastern regions of North America.

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Nowe i rzadkie we florze Polski gatunki *Sphaeropsidales*. II

S t r e s z c z e n i e

Praca zawiera charakterystykę morfologiczną i rozmieszczenie geograficzne 16 gatunków grzybów z rzędu *Sphaeropsidales*. Są to gatunki rzadkie, a wśród nich stwierdzone po raz pierwszy w Polsce: *Apiocarpella impatientis*, *Ascochyta brachypodii*, *A. majalis*, *A. valerianae*, *Pestaloziella subsessilis*, *Septoria astericola*, *S. geranii*, *S. heracleicola* i *S. socia*.