

Gerhard Bedlan

## *Ascochyta silphii* sp. nov. – a new *Ascochyta* species on *Silphium perfoliatum*

*Ascochyta silphii* sp. nov. –  
eine neue *Ascochyta*-Art  
an *Silphium perfoliatum*

### Abstract

*Ascochyta silphii* sp. nov., a new species collected on *Silphium perfoliatum* L., differs from other species of *Ascochyta* on this host in length, width of the conidia and diameter of the pycnidia.

**Key words:** *Ascochyta silphii* sp. nov., *Silphium perfoliatum* L., symptoms, systematics, new species

### Zusammenfassung

*Ascochyta silphii* sp. nov., eine neue Art an *Silphium perfoliatum* L., unterscheidet sich von anderen Arten der Gattung *Ascochyta* auf diesem Wirt in Länge und Breite der Konidien als auch im Durchmesser der Pyknidien.

**Stichwörter:** *Ascochyta silphii* sp. nov., *Silphium perfoliatum* L., Symptome, Systematik, neue Art

### Introduction

On *Silphium* spp. we know two different species of *Ascochyta*, namely *A. treleasei* Berl. & Vogl. and *A. compositarum* Davis (see Tab. 1).

On leaves of *Silphium perfoliatum* originating from a field at Strem near Güssing (Burgenland, Austria) an *Ascochyta* species was identified which differs in the

diameter of the pycnidia, length and width of conidia to the well-known species on *Silphium* spp.

### Methods

For the determination of the fungus the usual mycological routine methods of light microscopy were adopted. Pycnidia and conidia of the fungus were stained with Wittmann's Blue (WITTMANN, 1970). Both have been measured using the programme labSense by Olympus.

### Results

The main difference between the above mentioned two species and the new one are the diameters of the pycnidia, the length and width of the conidia (Tab. 1).

The diameters of the pycnidia of the new species is 40.57–100.37 µm with an average of 65.6 µm. The conidia are 3.74–10.02 µm long with an average of 6 µm and 1.09–3.37 µm wide with an average of 1.95 µm and are two celled with 1 septum in the midline of the conidia.

### *Ascochyta silphii* Bedlan sp. nov.

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On leaves brown roundish or irregular shaped spots with dark-brown margins or large indefinite greyish, dark grey or brown areas (s. Fig. 1 and 2). Conidiomata (pycnidia) on the upper side of the leaf spots (s. Fig. 3). Pycnidia

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Tab. 1. *Ascochyta* species on *Silphium* spp. (in chronological order) according to the original descriptions

Species	Host plant	Diameters of the pycnidia in $\mu\text{m}$	Length of conidia in $\mu\text{m}$	Width of conidia in $\mu\text{m}$	Characteristics of the conidia
<i>Ascochyta treleasei</i> Berl. & Vogl. (1886)	<i>Silphium integrifolium</i> <i>Vernonia noveboracensis</i>	100–120 <sup>1)</sup> 100–200 <sup>2)</sup>	7–14 <sup>1)</sup> 7–14 <sup>2)</sup>	3–5 <sup>1)</sup> 5–7 <sup>2)</sup>	Hyaline, ovate, oblong or reniform, often compressed in the median part, with 2–4 guttules, later 1-septate.
<i>Ascochyta compositarum</i> Davis (1919)	<i>Eupatorium urticaefolium</i> , <i>Helianthus strumosus</i> , <i>Aster drummondii</i>  In the literature <i>Silphium perfoliatum</i> is mentioned as host too	about 100 <sup>2)</sup> 100–200 <sup>4)</sup>	14–24 <sup>2)</sup> 15–22 <sup>3,4)</sup>	4–6 <sup>2)</sup> 4–6 <sup>3,4)</sup>	Hyaline, cylindrical, sometimes almost foot-shaped, sometimes with an eccentric septum, slightly constricted, 4-guttulated.
<i>Ascochyta silphii</i> sp. nov. (2014)	<i>Silphium perfoliatum</i>	40.57–100.37 $\bar{\varnothing}$ 65.6	3.74–10.02 $\bar{\varnothing}$ 6	1.09–3.37 $\bar{\varnothing}$ 1.95	Hyaline, oblong-cylindrical, rounded at the ends with 1 septum in the midth. At the septum sometimes constricted, some slightly flexuose.

<sup>1)</sup> according to TRELEASE (1881–1883) and BERLESE and VOGLINO (1886)

<sup>2)</sup> according to DAVIS (1919a)

<sup>3)</sup> according to DAVIS (1919b)

<sup>4)</sup> according to SACCARDO (1931)



Fig. 1. Symptoms on upper side of leaf (more or less roundish leaf spot).



Fig. 2. Symptoms on upper side of leaf (large indefinite brown areas).

semi-immersed, dark brown, globose, 40.57–100.37  $\mu\text{m}$  diameter (average 65.6  $\mu\text{m}$ ). The ostioles measure 7.48–21.28  $\mu\text{m}$  (average 14.1  $\mu\text{m}$ ). The conidia are 3.74–10.02  $\mu\text{m}$  long with an average of 6  $\mu\text{m}$  and 1.09–3.37  $\mu\text{m}$  wide with an average of 1.95  $\mu\text{m}$ , hyaline, oblong-cylindrical, rounded at the ends with 1 septum in the midth. At the septum sometimes constricted, few conidia are slightly flexuose (Fig. 4).

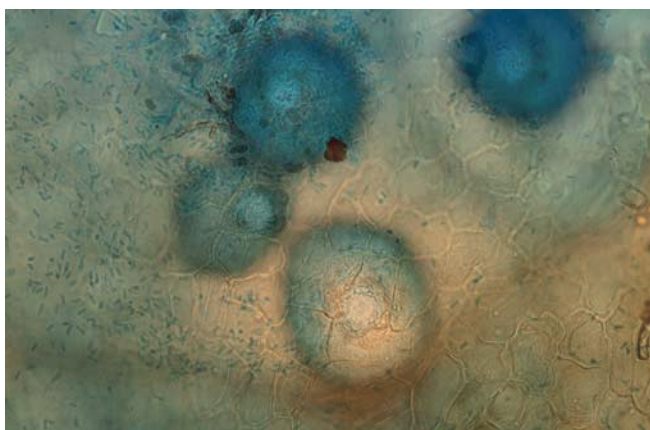
On living leaves of *Silphium perfoliatum* L.

Type: Austria, Strem (near the district capital Güssing)/Burgenland, Austria. On living leaves of *Silphium perfoliatum* L., 03 October 2012, G. BEDLAN (holotype, hb W).

The type specimen has been deposited at the Department of Botany, Natural History Museum, Vienna (hb W).

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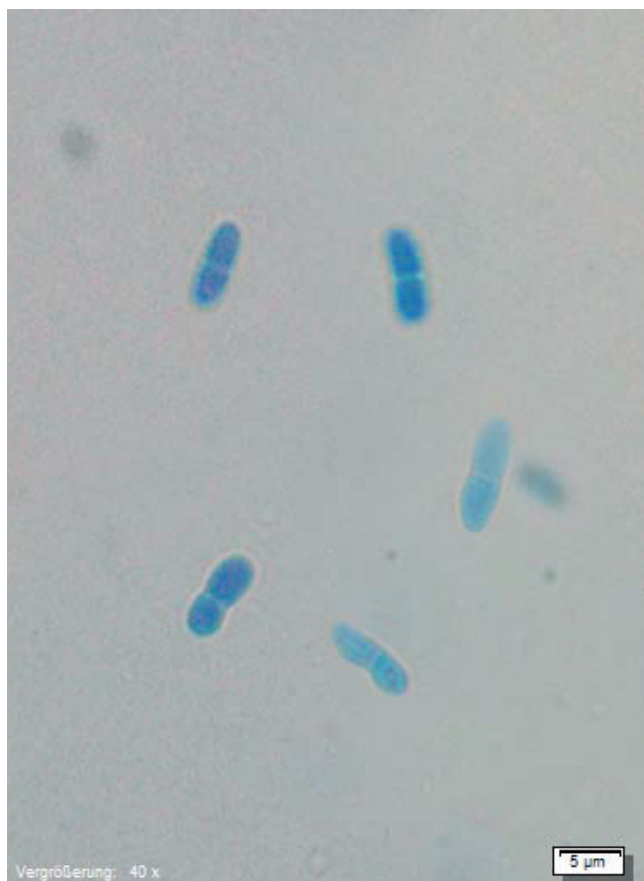
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**Fig. 3.** Pycnidia (stained with Wittmann's Blue).

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**Fig. 4.** Conidia (stained with Wittmann's Blue).